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14. ABSTRACT Spouses of returning Iraq and Afghanistan military service members report increased depression and anxiety post deployment as they work to reintegrate the family and service member. Year-long telephone support groups designed to educate, build coping skills, improve access to services for veteran and family, and serve as a source of shared support were tested. There were 14 groups with 86 spouses. Each group met 12 times with a trained group leader. Spouse satisfaction with the groups was high. Over the course of the year, spouse depression and anxiety were decreased and social support was increased. Spouses reported a decreased level of concern about the effects of reintegration on their social life, their home life, their family, their husband, and themselves. These findings suggest that telephone support groups are a viable means of providing information, support, and skills to military spouses. Based on the study, the Department of Veterans Affairs is implementing a national program, Spouse Telephone Support, to provide telephone support groups to spouses of OEF/OIF/OND veterans. Staff at each VA Medical Center will be trained and staff manuals and spouse workbooks are being provided.					
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## Introduction

Spouses of Active Duty service members who have been deployed to Iraq and Afghanistan show mental health diagnoses of depression, anxiety, sleep disorders, acute stress reaction and adjustment disorders (Mansfield et al., 2010), with rates that are similar to those of service members (Eaton et al., 2008). National Guard spouses are also at risk, with 34% of significant others compared to 40% of Guard members, screening positive for mental health problems (Gorman, Blow, Ames and Reed, 2011).

Reunion and reintegration are often stressful for a variety of reasons (Wood, 1995; Blow et al., 2011; Knobloch and Theiss, 2011). Post deployment, 22% of spouses of soldiers who have returned from Iraq or Afghanistan report that reunion is “difficult” or “very difficult” (Booth, Wechsler Segal, and Bell, 2007). Certain types of families struggle with reintegration, including those who are younger, financially less secure, and are in a first deployment. Difficulties before deployment and major life transitions such as pregnancy during deployment are also indicators that the post deployment transition may be difficult (Booth et al; Faber, Willerton, Clymer, MacDermid, and Weiss, 2008).

For most families, major sources of conflict and stress during reintegration are differences between deployment and home routines (Hosek, Kavanagh, and Miller, 2006) and re-negotiating role boundaries around responsibilities (Blow, 2011; Faber et al., 2008; Bell and Schumm 2000; Drummet, Coleman, and Cable 2003; Segal and Segal, 2003). Family members have difficulty resuming previous roles and responsibilities, negotiating new roles and responsibilities, and giving up roles and responsibilities taken on during deployment (Knobloch and Theiss, 2011; Sayers, Farrow, Ross, and Oslin, 2009). Changes in communication patterns between spouses during deployment, and the need to open communication channels after deployment, contribute to these difficulties in managing reintegration tasks (Faber et al.; Knobloch and Theiss 2011; Slone and Friedman, 2008; Walsh, 2006).

The goal of this study was to help spouses serve as a support system and ease the transition for military service members returning from Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF). The program provided telephone support group sessions to spouses designed to educate, build coping skills, improve access to services for veteran and family, and serve as a source of shared support. The study was based on the BATTLEMIND Training System developed by the Walter Reed Army Institute of Research to help soldiers reintegrate and adapt their combat skills back into civilian life. Topics for the Telephone Support Groups are based on the letters of the word BATTLEMIND (Riviere, Clark, Cox, Kendall-Robbins, and Castro, 2007). The BATTLEMIND rubric was discontinued by the Army during the study period.

The study was designed for 60 OEF/OIF spouses from the general population of spouses. Per the request of the Wounded Warrior Project (WWP), 26 WWP spouses were also enrolled for a total of 86 participants. Over the period of one year, each group of 5 to 6 participants (or approximately 10 participants for the WWP spouses) and a trained Group Leader had 12 hour-long structured telephone sessions, focusing on education, coping skills, and support. The content includes ways the returning service member, spouse, and family may have changed during deployment; an emphasis on compromise and negotiation in personal relationships; strategies to reduce or eliminate reunion and reintegration difficulties; strategies to support the returning service member; and cues to alert spouses when to seek mental health services for their service member, children, or themselves.

## Body

**Task 1: Develop Manual of Operations (MOP)**, September 2008 – March 2009.

Product for Task 1: Completed Manual of Operations

**Task 2: IRB approval**, August 2008 – September 2008, February 2010 – March 2010.

Product for Task 2: Approved consents and amendments

**Task 3: Hire and train personnel**, September 2008 – January 2009. Staff working with the project included a project manager, two group leaders, research data associates, a data analyst, and a statistician. During the course of the study, a University of Memphis Anthropology graduate student and two University of Memphis Psychology graduate students worked with the project. Staff who have received pay during the study period include co-investigators Dr. Jennifer Martindale-Adams, Dr. Robert Burns, and Dr. Marshall Graney; group leaders Patricia Miller and Denise Brown; research associates Barbara Higgins, Celeste Bursi, Sarah Kennedy, Karsten Everett, Jessica Roxy Martin, and Crystal Ton; data analyst Jeff Zuber, and graduate students Jordan Fields and Katherine Bracken-Minor.

Product for Task 3: Trained and certified staff

**Task 4: Recruitment**, April 2009 – January 2010, April 2010 – June 2010. Recruitment was accomplished. There were 86 spouses enrolled in 14 groups. Although husbands were welcome, none were recruited so all participants were wives. Spouses were recruited nationally through online methods such as websites and emails, mailings, and referrals from military, advocacy groups and veterans facilities. Twenty-six participants were referrals from the national Wounded Warrior Project office. On average, spouses were 37 years old and had been married about 10 years with 1.5 children. They were predominantly white/Caucasian. More than half were employed, most had greater than a high school education, and household income was a little less than \$5,000 a month (Table 1 in Supporting Data).

For their husbands (Table 2 in Supporting Data), almost half were National Guard or Reserve and most were noncommissioned officers. Approximately two thirds were employed and about 60% were receiving VA services. They had had, on average, slightly less than three deployments total with the last deployment lasting almost 1 year. The husbands had been back from deployment a little more than two years. Almost two thirds had been injured during deployment.

Seventeen spouses (19.8%) were lost to follow-up. There were two significant baseline differences between these spouses and those who provided follow-up data. Non-completers had more children (2.0 vs. 1.4,  $p = .046$ ) and worse general health (2.4 vs. 1.8,  $p = .042$ ). There were no significant baseline differences between the service members of spouses lost to follow up and those who remained in the study.

Product for Task 4: 60 regular spouse participants and 26 Wounded Warrior Project spouse participants

**Task 5: Intervention (Telephone Groups)**, April 2009 – July 2011. See Tables in Supporting Data for topics (Table 3) and format of groups (Table 4). There were 14 telephone groups each

with 5 to 10 members and a trained mental health professional Group Leader. Each of the groups met 12 times during one year. The one-hour calls were semi-structured conference calls with education, training in coping skills and cognitive restructuring, and support. The groups focused on practical suggestions to help spouses “normalize” their experiences in a safe environment. Spouses were encouraged to practice skills during the session through role play, self talk, and modeling of appropriate behavior.

Group members were encouraged to make a commitment at the end of each session to select and practice at least one strategy or skill between sessions. Taking Action sheets were available at the end of each section of the Workbook for the commitment to be written down, signed and dated by the spouse for her own use. At the beginning of the next telephone session, during check-in, each spouse was queried about her commitment, whether she tried it, and whether it worked, and barriers to implementation were problem solved by the entire group.

The hour long sessions were structured and supplemented by a Spouse Workbook that had material related to each topic, expanded by additional didactic material and skills building instruction and exercises. Topics focused on reintegration tasks. In addition to the topic material, supplemental Red Flag topics in the Workbook referred to potentially dangerous or unsafe situations and a need for increased awareness of behaviors and/or situations that may be encountered post deployment. Red Flags included substance abuse and addictions, child abuse, depression, domestic violence, grief, stress and reintegration, suicide prevention, and anger.

Products for Task 5: Fourteen support groups completed.

**Task 6: Data Collection/Data Entry/Cleaning**, April 2009 – July 2011.

Products for Task 6: All data collected, cleaned and entered.

**Task 7: Data Analysis**, June 2010 – September 2011. Data analysis used mixed-effects models with a compound symmetry covariance structure on all outcome variables except family communication, which had a better fit using unstructured (or general) covariance structure to compare baseline and follow-up scores to estimate the fixed effect parameter of change over time. Each outcome measure was treated as independent of the others. The distributional properties for all variables were inspected to determine appropriateness for analysis methods utilized. P values less than or equal to .05 were considered statistically significant, and those between .05 and .10 were considered to document trends that approached, but did not attain, statistical significance. Data was analyzed across appropriate subgroups to capture important effects that might be hidden in overall results.

Clinical significance, i.e., effect size, is an estimate of the findings’ substantive magnitude or clinically meaningful outcomes. For statistically significant comparisons, an effect size (d) of at least 0.2 SD improvement was considered clinically significant, which is consistent with effect sizes reported for psychosocial interventions, which are generally small to medium. Effect sizes were estimated as mean change from baseline to twelve months relative to estimated population standard deviation (Cohen, 1988).

Over the course of the study, there were statistically significant improvements in depression, anxiety and social support (Table 5 in Supporting Data. There was no significant improvement in marriage quality, family coping or family communication. Clinical significance, measured by

effect size ( $d$ ), was .33 for depression, .40 for anxiety, and .17 for social support, over the course of the study.

There were six domains of potential reintegration difficulty: social life; home life; couple; family; service member; and self. Each domain of concern had from 3 to 9 questions and a summary question for overall concern about the domain (e.g., How concerned are you about your family life overall?).

When summary questions for each domain were examined, spouses had significant improvement in all domains of concern except that relating to their functioning as a couple (Table 6 in Supporting Data) shows overall scores for each domain. In addition to statistical significance, there were small to medium clinical effects over the course of the support groups, as documented by the effect size  $d$ .

One of the questions asked of participants was whether the service member had been injured during combat and whether the injury or illness had caused any difficulties in care for the spouse. There were 48 spouses who reported an injury that caused care difficulties compared to 38 spouses who either reported no injury or no injury that caused care difficulties. Spouses were asked to elaborate on the type of difficulty. Similar to what has been found in the general population of individuals returning from Iraq and Afghanistan, the most common medical conditions mentioned were Traumatic Brain Injury (TBI), Post-Traumatic Stress Disorder (PTSD), and orthopedic problems, such as knee and back injuries. The types of care difficulties included general care burden on the spouse due to problems associated with impaired cognition, memory loss and decreased mobility.

When baseline demographics for these two groups of spouses were compared, fewer of the injury/difficulty spouses were employed as were their husbands. The husbands of spouses who reported care difficulties had also been back a longer time compared to no injury/no difficulty husbands (3 years vs. 1.5 years), and were more likely to be discharged from the military and, therefore, using VA services. There were significant differences in health parameters, also, with injury/difficulty spouses, compared to no injury/no difficulty spouses, reporting worse overall health (2.13 vs. 1.66,  $p = .028$ ), and higher percentages reporting worse health than others of the same gender and age (45.8% vs. 15.8%,  $p = .007$ ) and worse health since the service member's return (60.4% vs. 26.3%,  $p = .003$ ). At baseline and during the study, there were statistically significant group differences between these two groups of spouses in depression, anxiety, and social support, with a trend toward a significant difference in quality marriage (Table 7 in Supporting Data).

Products for Task 7: Completed data analysis.

- See Appendix, Chapter and draft manuscripts
- Tables 5, 6 and 7 in Supporting Data

**Task 8: Preparation and Dissemination of Results**, March 2011 – November 2011. A book chapter has been submitted for an edited volume to be published by Springer under the aegis of the Military Family Research Institute. One article has been submitted and one is in preparation. In addition, the VA is rolling out the Spouse Telephone Support (STS) program, based on this research, to all VA Medical Centers as part of Public Law 111-163 Caregivers and Veterans Omnibus Health Services Act of 2010. Funding for the national rollout is from Caregiver Support, Patient Care Services. The initial impetus for the STS program came from the

testimony before Congress of a spouse who was participating in our telephone support groups. The Memphis VA Medical Center is training Caregiver Support Coordinators across the system to provide telephone support groups and is providing Group Leader materials (manual, training materials) and Spouse Workbooks for each OEF/OIF/OND spouse enrolled in the program. See Reportable Outcomes below, Appendix chapter and draft manuscripts, and Appendix presentation slides

Products for Task 8:

- 3 presentations
- 1 book chapter submitted
- 1 manuscript submitted
- 1 draft manuscript to date
- 1 manuscript planned
- VA national rollout of Spouse Telephone Support
  - Spouse Workbook
  - Group Leader Manual
  - Training Manual
  - Spouse Telephone Support press release

**Key Research Accomplishments**

- High spouse satisfaction with intervention
- Significant improvement in spouse depression
- Significant improvement in spouse anxiety
- Significant improvement in spouse social support
- Significant improvements in spouse report of potential reintegration difficulties for domains of
  - social life
  - home life
  - family
  - service member
  - self



## **Reportable Outcomes**

Manuals and materials for national rollout/dissemination of Spouse Telephone Support to all VA Medical Centers, training and dissemination began October, 2011:

- Spouse Telephone Support Workbook
- Group Leader Manual
- Training Manual
- Group Leader Training slides
- VA and Army Press release

### Presentations:

- Nichols LO, Martindale-Adams J, Miller P, McDevitt-Murphy M, Thompson K, Graney M, Burns R, Riviere L, & Wright KM. Spouse BATTLEMIND Telephone Support Groups. Presentation, Military Health Research Forum (MHRF), Kansas City, Missouri, August 31- September 3, 2009.
- Nichols LO, Martindale-Adams J, Miller P, McDevitt-Murphy M, Thompson K, Graney M, Burns R, Riviere L, & Wright KM. Reintegration: The Role of Spouse Telephone BATTLEMIND Pilot Project. Poster, Military Health Research Forum (MHRF), Kansas City, Missouri, August 31- September 3, 2009.
- Nichols, LO, & Martindale-Adams, J. Reintegration: Support for Spouses Post Deployment. 2011 International Research Symposium on Military Families. Presentation, Military Family Research Institute at Purdue University and the Center for Deployment Psychology, Indianapolis, IN, September 27-28, 2011.

### Book Chapter

- Nichols LO, Martindale-Adams J, Graney MJ, Zuber J, Miller PE, & Brown D. Feasibility of Telephone Support Groups for Spouses of Returning Iraq and Afghanistan Service Members. Chapter in Edited Volume for the Military Family Research Institute. NY: Springer.

### Manuscripts

- Fields, JA, Nichols LO, Martindale-Adams J, Zuber J, & Graney MJ. Anxiety, Social Support, and Physical Health in a Sample of Spouses of OEF/OIF Service Members. Submitted to *Military Medicine*.
- Nichols LO, Martindale-Adams J, Zuber J, Graney MJ, Burns, R. Easing Reintegration: Telephone Support Groups for Spouses of Returning Iraq and Afghanistan Service Members. Draft manuscript.

### Randomized Clinical Trial

- Nichols, LO, & Martindale-Adams, J, Principal Investigators. Spouse READI Telephone Support (Resilience Education and Deployment Information), W81XWH-09-1-0242, Defense Health Program (DHP), managed by the U.S. Army Medical Research and Materiel Command
  - September 29, 2009 – January 31, 2014, \$1,072,618

- Three arms – Telehealth methodology
  - Telephone support groups (1.0 hour, twice/month)
  - Webinar education sessions, (0.75 hour, twice/month)
  - Usual care (workshop at study end)

## Conclusions

### Study Findings

The purpose of this *pilot study* was to demonstrate the feasibility and effectiveness of a telephone support group intervention for spouses of returning Iraq and Afghanistan service members. From baseline to follow-up, spouses reported significantly improved depression, anxiety and social support. Two of the three statistically significant findings, depression and anxiety, also met the criteria for clinical significance. Over the course of the study, spouses reported a decreased level of concern about the effects of reintegration on their social life, their home life, their family, their husband, and themselves. Spouses who were dealing with injuries that caused care difficulties were more burdened but had a stronger clinical response to the intervention than spouses who were not coping with care difficulties.

Guard/Reserve and Active Duty spouses participated in equal numbers, suggesting that even families that have access to resources for military families on base can use additional assistance. The study originally targeted spouses of newly returned service members during the first year post-deployment when reintegration and mental health difficulties have been found to increase. However, the length of time post deployment ranged from one month to 80 months with average time post deployment greater than two years. Clearly, for some families, reintegration tasks continue to provide challenges and concerns several years after deployment is ended and support should be ongoing.

**These findings suggest that telephone support groups are a viable means of providing information, support, and skills to military spouses.**

### Lessons Learned

Spouses requested modifications to better meet their needs and these modifications are being incorporated into ongoing work for the Army and the VA.

- Shorten length of groups from one year to six months
- Increase time for spouse participation and sharing during hour sessions
- Repeat sessions for those who must miss a session
- Increase focus on spouses and their concerns while still acknowledging their role as the support of the service member

### Implementation into Practice

The success of the pilot study and the enthusiasm of the participating spouses led the VA to implement the model into all 152 VA Medical Centers as the Spouse Telephone Support program, telephone support groups for spouses of Iraq and Afghanistan Veterans. This program is part of the implementation of Public Law 111-163 Caregivers and Veterans Omnibus Health Services Act of 2010 that allows VA to provide benefits to caregivers of Veterans.

Beginning October, 2011, Staff at each facility are being trained to provide the intervention by the Memphis VA Medical Center and all materials provided for group leaders and spouse participants. The Workbook/Session topics target problem solving and communication, relationships, mental health and psychological conditions, and building the spouse's resilience and strengths.

### Research Implications

There are several research implications from this pilot study. Although the study had positive findings, the true test of scientific rigor is the randomized clinical trial. The confirmation of this gold standard methodology will allow the Department of Veterans Affairs and the Department of Defense to implement the findings as a true evidence based program. In addition, the evaluation of the effectiveness of the Spouse Telephone Support groups in the VA is planned.

- Spouse READI Telephone Support (Resilience Education and Deployment Information), W81XWH-09-1-0242, Defense Health Program (DHP), managed by the U.S. Army Medical Research and Materiel Command, September 29, 2009 – January 31, 2014.
- The VA Spouse Telephone Support groups, including different models, such as face-to-face groups and including participants from one local area who may have met each other, will be tested for effectiveness and accessibility.
- Other methodologies to reach spouses such as social media, online, videoconferencing models, and smart phone applications should be tested. Privacy and security concerns and the potential for unauthorized access to group information will need to be addressed.

### Clinical Implications

- Spouses can have a dramatic effect on the reintegration of the family after deployment and can be a major support for the service member/veteran.
- Military and veteran spouses are dealing with challenging and unique situations that civilian spouses do not routinely encounter.
- Military and veteran spouses may need special attention from their community primary care and mental health providers, particularly for Guard, Reserve and veteran spouses who are not near a military installation and do not have other military support.

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## Appendix

### Appendices

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**STATEMENT OF WORK (SOW)**  
**Amendment 7/7/10**

**Task 1: Develop Manual of Operations (MOP)** September 2008 – March 2009

- Finalize support group format
  - Develop outline and scripts for each educational/coping skills BATTLEMIND section/topic
- Finalize support group materials
  - Develop/modify/obtain support group educational/coping skills material
  - Compile internet resources (VA, DoD, National Center for PTSD)
  - Prepare Participant Notebooks and Welcome Packs
- Finalize screening materials
  - Finalize inclusion/exclusion criteria
  - Finalize forms and scripts
- Finalize data collection protocol/battery
  - Develop/modify forms and write scripts for each section of the battery
  - Write supporting documentation (e.g., Q by Qs for battery)
  - Identify participant alerts (e.g., depression) and appropriate actions to take
- Develop and print brochures and posters

Task 1: Products/Outcomes

- Manual of Operations
  - Support group format, topics and scripts
  - Material for each topic
  - Internet resources document
  - Participant Notebooks and Welcome Packs
  - Screening forms and scripts
  - Data collection forms and scripts and supporting documentation
- Brochures and posters

**Task 2: IRB approval** August 2008 – September 2008, February 2010 – March 2010

- Develop informed consent documents and obtain IRB approval
- Amend informed consent and protocol to include 30 Wounded Warrior participants

Task 2: Outcomes/Products

- Approved consent

**Task 3: Hire and train personnel** September 2008 – January 2009

Task 3: Outcomes/Products

- Trained and certified staff

**Task 4: Recruitment** April 2009 – January 2010, April 2010 – June 2010

- Work with recruitment sources
- Send brochures to spouses or significant others of returning personnel who are at least 1 month post deployment
- Telephone and screen potential participants

## Appendix

### Task 4: Products/Outcomes

- 60 participants recruited
- Additional 30 Wounded Warrior Program participants to be recruited

### **Task 5: Intervention (Telephone Groups)**

April 2009 – July 2011

- Schedule groups
- Provide telephone groups for intervention participants

### Task 5: Products/Outcomes

- Groups provided for 60 participants plus up to 30 Wounded Warrior participants

### **Task 6: Data Collection/Data Entry/Cleaning**

April 2009 – July 2011

- Collect full data at baseline, six and twelve months
- Enter and clean data

### Task 6 Products/Outcomes

- Completed data collection batteries for participants

### **Task 7: Data Analysis**

June 2010 – September 2011

- Analyze data

### Task 7: Products/Outcomes

- Completed data analysis (characteristics of participants, participant satisfaction, adherence to therapeutic recommendations; feasibility and cost, clinical and social impacts)

### **Task 8: Preparation and Dissemination of Results**

March 2011 – November 2011

- Prepare papers and presentations
- Develop protocol for dissemination to other VAMCs, Vet Centers, and DoD facilities

### Task 8: Products/Outcomes

- Papers and Presentations
- Manuals and materials and plan for dissemination to other VAMCs, Vet Centers, and DoD facilities

### **Study Site Information:** No animal use/anatomical samples

### **VA Medical Center Memphis - All activities including human subject use (n=86) at this site only**

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**Feasibility of Telephone Support Groups for Spouses  
of Returning Iraq and Afghanistan Service Members**

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## **Abstract**

Interventions such as counseling and retreats to assist with the reintegration of the returning service member and the family have typically focused on the couple. We tested a telephone support group intervention targeted to spouses, providing them with information about combat consequences and reintegration concerns, skills to manage the tasks of reintegration such as role negotiation, and support from other spouses. Our strategy was to focus on the spouse as the lynchpin of the family who would manage the transition and reintegration process. Telephone support groups were feasible for this group of spouses and spouses learned skills to help their families and themselves with reintegration tasks.

## **Acknowledgement**

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## Introduction

Spouses of Active Duty service members who have been deployed to Iraq and Afghanistan show mental health diagnoses of depression, anxiety, sleep disorders, acute stress reaction and adjustment disorders (Mansfield et al., 2010), with rates that are similar to those of service members (Eaton et al., 2008). National Guard spouses are also at risk, with 34% of significant others compared to 40% of Guard members, screening positive for mental health problems (Gorman, Blow, Ames and Reed, 2011).

Reunion and reintegration are often stressful for a variety of reasons (Wood, 1995; Blow et al., 2011; Knobloch and Theiss, 2011). Post deployment, 22% of spouses of soldiers who have returned from Iraq or Afghanistan report that reunion is “difficult” or “very difficult” (Booth, Wechsler Segal, and Bell, 2007). Certain types of families struggle with reintegration, including those who are younger, financially less secure, and are in a first deployment. Difficulties before deployment and major life transitions such as pregnancy during deployment are also indicators that the post deployment transition may be difficult (Booth et al; Faber, Willerton, Clymer, MacDermid, and Weiss, 2008).

However, for most families, the major sources of conflict and stress during reintegration are differences between deployment and home routines (Hosek, Kavanagh, and Miller, 2006) and re-negotiating role boundaries around responsibilities (Blow, 2011; Faber et al., 2008; Bell and Schumm 2000; Drummet, Coleman, and Cable 2003; Segal and Segal, 2003). Family members have difficulty resuming previous roles and responsibilities, negotiating new roles and responsibilities and interdependencies, and giving up roles taken on during deployment (Knobloch and Theiss, 2011; Sayers, Farrow, Ross, and Oslin, 2009). Changes in communication patterns between spouses during deployment, and the need to open communication channels after deployment, contribute to these difficulties in managing reintegration tasks (Faber et al.; Knobloch and Theiss 2011; Slone and Friedman, 2008; Walsh, 2006). Table 1 shows adjustment difficulties in these tasks reported by Army spouses after deployment.

- Insert Table 1 about here -

Recommendations (Booth et al., 2007) to support military families with these reintegration tasks include 1) providing longer-term support infrastructure post deployment for families; and 2) integrating research findings into training materials and workshops that cover advice and strategies on how to deal with deployments and reunions. Topics should include dealing with the culture shock of return, adjusting to changes in family members, identifying and dealing with psychological symptoms, positive outcomes of deployment, and available support resources.

These recommendations are strategies to increase family members' resilience, their ability, singly and together, to cope with disruption and adapt to change (MacDermid Wadsworth 2010). However, many military families during and post-deployment do not make use of resources that are available, perhaps because the resources are not in a form that families feel comfortable with or do not address the particular stressors that families are experiencing (Di Nola, 2008). Because they may live far from unit headquarters, Reserve and Guard families are less likely to have access to military resources, may not have other unit members in the same town, and may not have support from other military spouses (Blow et al., 2011; Burrell, Durand, and Fortado, 2003; Gorman et al., 2011; Gottman, Gottman and Atkins, 2011).

Strategies to assist military families with reintegration tasks, all of which have been successful, have included counseling, online training, weekends, and programs such as FOCUS

(Families OverComing Under Stress™) (Lester et al., 2011) and PREP (Prevention and Relationship Enhancement Program) for Strong Bonds (Stanley, Allen, Markham, Rhoades, and Prentice, 2010). However, these interventions have overwhelmingly focused on the dyad of service member and spouse or the family and are dependent on the participation of both parties.

### **Spouse Based Telephone Support Intervention**

Our strategy was to provide information and skills to the spouse as the focal point who would provide support for the returning service member and manage the transition and reintegration process for the family. We developed a telephone support group intervention to meet the needs of spouses who did not have access to local resources. The development of these groups was funded by the Defense Health Program (DHP), managed by the U.S. Army Medical Research and Materiel Command, through the Congressionally Directed Medical Research Program (CDMRP). Our goal was to develop a simple, low technology, low cost intervention that could be easily implemented, would be widely accessible to military spouses, wherever their location and circumstances, and would provide ongoing assistance during post deployment. Ongoing assistance can be critical for service members and spouses who may be isolated and struggling to readjust to life together in the absence of a social network that understands how to support this transition. This pilot study was designed to determine the feasibility of providing post deployment telephone support groups that focused on reintegration tasks for spouses/significant others and to assess participants' satisfaction with these support groups.

The intervention content was based on the Spouse BATTLEMIND concept, which was, in turn, derived from the Army's Soldier BATTLEMIND training, which helped soldiers transition from combat to home life. Spouse BATTLEMIND training was originally developed as a 1.5 hour training for spouses as an adjunct to the service member training (Riviere, Clark, Cox, Kendall-Robbins, and Castro, 2007). For our program, each of the letters of the BATTLEMIND rubric was expanded into an hour-long session with didactic information, skills building training and support.

Although the term BATTLEMIND is no longer used by the military, the content is specifically designed to reduce or eliminate reunion and reintegration difficulties and guide behavior to build family resilience and support. This practical model highlights ways the returning service member, spouse and family may have changed during deployment, builds on existing strengths and skills, and uses experiences that are familiar to spouses.

The training and skills building added for our expanded version of the model include an emphasis on resilience, which targets negotiation in personal relationships and roles, problem solving, communication, re-establishing family routines, time and rituals, obtaining support for the family, and cues to alert spouses when to seek mental health services for any member of the family (Black and Lobo, 2008). Strategies to assist with reintegration are targeted to the spouse. The intervention is designed as a preventive health model to allow spouses to identify potential difficulties in the family system and to intervene before these stressors become overwhelming.

Telephone groups were chosen because they circumvent resource obstacles such as lack of local services, access, and travel. At the same time, they provide participants an opportunity to interact with others, gain factual/current information, ask difficult questions with relative anonymity, share expertise and experiences with others who can benefit from their exchanges, receive and give social support, learn and practice skills to reduce distress, and seek assistance in addressing problems specific to their own circumstances. Telehealth is a low technology, low cost, distance neutral intervention that has been used successfully in the Veterans Health Administration (VHA) system of the Department of Veterans Affairs. In the community, telephone support groups

have been used for many kinds of individuals and caregivers, particularly dementia caregivers. Participants from varying ethnicities report good satisfaction and little difficulty in managing technology (Bank, Argüelles, Rupbert, Eisdorfer, and Czaja, 2006; Martindale-Adams, Nichols, Burns and Malone, 2002). Results have included improvements in mental health status self-efficacy, and social support (Marziali and Garcia, 2011).

Telephone support groups may have a lack of interpersonal verbal and physical cues, technical problems such as static, distractions in the home that can potentially limit or interfere with participation, and support group leaders who are inadequately trained in directing groups that lack face-to-face interaction. However, these problems can be fairly easily overcome.

Intensive training for Group Leaders, monitoring sessions, and group rules are strategies we employed for overcoming potential problems associated with telephone interactions. Group rules encouraged group members to identify themselves and give clear feedback. Strategies by the Group Leader to engage individuals included use of prompts and open-ended questions to solicit information, use of rephrasing, reflection, and summarization, use of member's own language/descriptors, and assessment of member's understanding of the intervention by "checking in" and by asking questions. Group Leaders were trained to maintain group structure over the telephone through an appropriate level of assertiveness and use of empathetic responses while remaining on protocol.

### **Telephone Groups and Sessions**

There were 14 telephone groups each with 5 to 10 members and a trained mental health professional Group Leader. Each of the groups met 12 times during one year. The hour long sessions were structured and supplemented by a Spouse Workbook that had material related to each topic, expanded by additional didactic material and skills building instruction and exercises. Topics focused on reintegration tasks as shown in Table 2.

In addition to the topic material, supplemental Red Flag topics in the Workbook referred to potentially dangerous or unsafe situations and a need for increased awareness of behaviors and/or situations that may be encountered post deployment. Red Flags included substance abuse and addictions, child abuse, depression, domestic violence, grief, stress and reintegration, suicide prevention, and anger.

- Insert Table 2 about here -

The telephone groups were participant centered to incorporate participant input and direction of discussion. The one-hour calls were semi-structured conference calls with education, training in coping skills and cognitive restructuring, and support, as shown in Table 3. The groups focused on practical suggestions to help spouses "normalize" their experiences in a safe environment. Spouses were encouraged to practice skills during the session through role play, self talk, and modeling of appropriate behavior.

Following a Seeking Safety model (Najavits, 2002), group members were encouraged to make a commitment at the end of each session to select and practice at least one strategy or skill between sessions. Taking Action sheets were available at the end of each section of the Workbook for the commitment to be written down, signed and dated by the spouse for her own use. At the beginning of the next telephone session, during check-in, each spouse was queried about her commitment, whether she tried it, and whether it worked, and barriers to implementation were problem solved by the entire group.

- Insert Table 3 about here -

## Participants

There were 86 spouses enrolled in 14 groups. Although husbands were welcome, none were recruited so all participants were wives. Spouses were recruited nationally through online methods such as websites and emails, mailings, and referrals from military, advocacy groups and veterans facilities. Twenty-six participants were referrals from the national Wounded Warrior Project office. As shown in Table 4, on average, spouses were 37 years old and had been married about 10 years with 1.5 children. They were predominantly white/Caucasian. More than half were employed, most had greater than a high school education, and household income was a little less than \$5,000 a month.

- Insert Table 4 about here -

For their husbands, as shown in Table 5, almost half were Guard or Reserve and most were noncommissioned officers. Approximately two thirds were employed and about 60% were receiving VA services. They had had, on average, slightly less than three deployments total with the last deployment lasting almost 1 year. The husbands had been back from deployment a little more than two years. Almost two thirds had been injured during deployment.

- Insert Table 5 about here -

## Telephone Support Groups Feasibility for Spouses

### Spouse Satisfaction

Because our primary objective was to determine if the groups were a feasible strategy to meet spouses' needs, we collected information on satisfaction with the intervention overall, group call format, perceptions of support given and received, study materials, amount of work or effort, and usefulness of the project, (all scored from 1 – not at all satisfied to 5 – extremely satisfied). Open ended questions addressed benefit to the participant, difficulties, what components of the study were useful and changes recommended (Martindale-Adams et al., 2002). The Group-Growth Evaluation form (Pfeiffer and Jones, 1987) measured group climate and data flow to determine how each group had changed since its inception, focusing on closeness, accomplishment, trust, and willingness to share personal information. The 11 questions were rated on a five point scale with 5 as the highest rating. Participants were asked to rate how the group functioned initially and at its conclusion.

Spouses were satisfied with the structure and logistics of the telephone support group. The call format, length, and ease of using the telephone were all highly rated with satisfaction scores averaging between very satisfied and extremely satisfied. While most spouses were very satisfied with the length of the calls, several spouses wanted the calls to be longer than one hour. We were initially concerned that the lack of visual cues would hamper spouses' ability to participate, but this was not the case. Spouses reported that they could talk to unseen group members and identify who was talking, although they rated their satisfaction with these two areas between moderately and very satisfied. As one spouse reported, *"Being on the phone it wasn't like face to face, no strong connection."* However, as is often the case for telephone support groups, the anonymity of the groups was beneficial to some spouses. *"I like the anonymousness of it, not knowing anyone else..."* *"They couldn't see your face and you could say anything you want."*

Convenience was important. One spouse commented, *"You can be on the phone anywhere, even if you are away from home."* Many spouses participated in the groups from their work sites or using their cell phones. Spouses were across the country, even in the Pacific Islands, and many lived in rural locations. As one spouse said, *"Living in a rural community... it's nice to not have to*

*drive an hour... that's too long it takes to get to our support. It's nice to sit at home and pick up the phone and talk to someone.*” Others were not near a base or other military or VA resources. “... *my husband was individually mobilized so the FRG was three hours away... there were no military families in my community. It was a way to connect in that way.*” Overall, spouses were highly satisfied with the groups with a mean score of  $4.5 \pm .749$ .

On the group climate questions from the Group Growth instrument, participants reported a significant increase in their estimation of the group's cooperation and their rewards from being a member of the growth from their initial participation to study end (3.77 versus 4.36;  $p < .001$ ). Participants also reported feeling more comfortable sharing personal information from their initial participation in the group to study end (3.62 versus 4.53;  $p < .001$ ).

### **Spouse Perceptions of the Components of the Group**

The three components the support groups focused on were education and information, skills building, and support.

Information came from both formal and informal methods. Spouses were highly satisfied with the formal method of written information and the didactic sessions, with both rated between very and extremely satisfying, and found the workbook helpful. One spouse commented, “*I loved the workbook, loved the information, loved the leader...*” Spouses also reported high satisfaction with information from fellow group members and reported that the groups were, “*Easy to use... very accessible. The overall information given by the members and how they coped with situations.*”

One important area of information was the importance of taking care of self. Several sessions focused specifically on the spouse's need to take time for herself and to decrease stress. This was an area that spouses embraced and, in fact, several suggested increased emphasis on their needs in addition to their role as a support for the service member. “*I liked taking time for myself and being able to share my problems and accomplishments with women who understand,*” one spouse commented. Another was very specific in her view of the role of the group and its value to her, “*I liked the ability to hear others talk, to voice my opinion; to give each other support. I liked the book, the coach, the freedom of having a girls' night out too.*”

In general, spouses were eager to try skills and strategies from each session. One spouse reported that her favorite part of the sessions was “*the monthly commitment and the coaching.*” Another said, “*The book was great but the telephone support helped put the concepts into every day practice.*” Problem solving was an important component of the intervention and spouses' commitments were frequently about using the problem solving techniques. The commitments from two spouses highlighted the process of looking at each piece of the problem. “*I broke the problem down into smaller pieces and saw that it was doable.*” “*I was always trying to solve the big problems and got overwhelmed before.*”

The stress reduction and relaxation skills were highly rated, and 89% of spouses used these skills. Commitments showed that spouses were using the skills in practical situations. “*I had to use the breathing technique the other day because my kids weren't listening to me at all and I wanted to scream but I didn't...*”

Spouses also reported that the groups helped enhance negotiation, solve family problems and improve family communication, and improve general coping skills. As one spouse commented, “*Feel more confident in options you have...more resilient...never give up... being able to solve any problems you're facing.*” “*I was able to get feedback and suggestions from the group leader and*

*the other participants and an objective perspective on issues too difficult for me to handle by myself."*

Spouses rated the amount of support highly, particularly the amount of support from other group members. The feeling of validation was important. A spouse commented, *"Being able to speak freely about things most civilians cannot relate to. Feeling validated."* The amount of support from the group leader was also valued. *"She was caring and showed empathy."* *"Personal relationship with the group leader."* Normalization of spouses' concerns made them feel less isolated. *"Having other spouses I could relate to. Some made me think I'm not the only one going through this. It made me feel connected."* *"Being able to share your problems with others who knew what you were going through. Hearing about other people's difficulties and problems."*

Although spouses appreciated the support they received, their satisfaction scores showed they were slightly less convinced that they had provided good support for other group members, with the mean score at very satisfied. However, providing support was important for them. *"Talking it out. Realize we had a lot in common. Helping others through their difficulties."*

### **Telephone Support Groups Role in Improving Spouse Skills**

The information, skills building and support were focused on improving spouses' ability to manage basic reintegration tasks. These tasks, as exemplified by potential reintegration concerns from the Army's BATTLEMIND training, were evaluated at the beginning of the groups and at their conclusion. Each potential concern was listed as a phrase rated on a scale of 1 (not very concerned) to 4 (seriously concerned). Phrases could target the spouse or the service member (SM) because either spouse or service member functioning may be perceived sources of concern.

There were six domains of potential reintegration difficulty: social life (e.g., I think SM and/or our family spend too little time together with our friends or our activities); home life (e.g., I think there are changes in my roles and/or responsibilities in the household since SM returned from deployment); couple (e.g., I think SM is less committed to our relationship); family (e.g., I think our family is having problems communicating with each other. For example, either we talk too little or we pretend everything is all right); service member (e.g., I think SM is more angry or irritable a lot of the time); and self (e.g., I think I have concerns about my future). Each domain of concern had from 3 to 9 questions and a summary question for overall concern about the domain (e.g., How concerned are you about your family life overall?).

When summary questions for each domain were examined, spouses had significant improvement in all domains of concern except that relating to their functioning as a couple. Table 6 shows overall scores for each domain. In addition to statistical significance, there were strong clinical effects over the course of the support groups, as documented by the effect size *d* (Cohen, 1988).

- Insert Table 6 about here -

Spouse commitments showed that these concerns were being addressed and their success in these commitments suggests that the statistical and clinical improvements shown were the results of actions spouses were taking in everyday life.

Some of the areas of social support commitment included strategies to make friends in the area, attend church more, reach out to other military spouses in the same situations across the country, and socialize more. Their specific commitments reflected their plans. *"I am going on 'caregiver/veteran strike' today since the boys are out of school and we are going to see a*

*children's movie. Tomorrow I may be on strike too as I want to see a different movie." "I am proactive in staying in touch with other wives who are going through this. "*

One commitment from a spouse around home life showed the outcome of her renegotiation of the family jobs: *"We set up a list of chores so that everyone can help not just me."* Other spouses used commitments to make home life less stressful for everyone. *"Over the month husband and I went through the chart of changes [that may have affected the relationship] and I'm working on my anger management. I may not be completely successful every time... but I am much more conscious of getting angry. So I am better able to stop the anger/frustration before it gets too far."*

As spouses worked on their relationships with their husbands, their commitments focused on finding happiness in marriage again, working on communication, putting respect back into the relationship, working on sex life with husbands who had suffered physical injuries, and showing appreciation for the husband and the relationship. Spouses were eager to share their successes with the group when things worked well. One spouse reported in an email to the Group Leader and to the other spouses during the session, *"My goal for last month was to have a date night with my hubby. Awesome news on that front - we had TWO dates!!"*

Family concern commitments frequently focused on children and their concerns, from the more serious realization that therapy for children regarding their issues might be needed and a commitment to secure therapy, to a plan to create bonding activities for the family and help the service member's communication with the children. *"The school really helps us with her now."* *"We did get to the movies finally and it was really nice."* *"I was able to show appreciation by telling them, this is about family and this is what family is all about."* Spouses also saw their role in helping the extended family in the reintegration of the service member. *"I used the chart [of changes that may have affected the relationship] to help his parents understand that he isn't the same person as before."*

Spouses were well aware of their important role in the family in reintegrating the service member back into civilian life and into the family, particularly when the service member had been injured. Their commitments often focused on their role in supporting the service member through finding resources, encouraging the service member to retry work, advocating for treatment, and setting up systems to help the service member to be more independent and less frustrated. *"I apologized for getting so mad and frustrated with him and we talked about a plan to get him evaluated for TBI therapy and for us to get back into marriage counseling as well as individual counseling."* *"We have made his alarm on his phone as a new tone, and we moved his phone into the kitchen where his med box is located and we have labeled everything to help him to remember to take his medication."*

In addition to their practice of stress management techniques, spouses used other strategies to find center and balance in their lives, such as learning to let go and relinquish control, work on their own life's focus, finding more me time, and cultivating a more positive outlook. *"I'm submitting my name and letter of interest to the commander of my husband's unit by Wednesday this week for the FRG leader position."* *"We did the resilience questions together and talked about how we can do a lot that we didn't think we could."*

### **How Telephone Support Groups Could Better Meet Spouse Needs: Lessons Learned**

The busy lives lead by military spouses had been one of our initial impetuses for developing telephone support groups. Work, school, household duties, children, care for aging parents or a husband who may have been injured are all excellent reasons why spouses frequently cannot travel



to a site for an intervention. However, although the telephone support groups were convenient and did not necessitate leaving home, these same reasons still affected spouses' ability to participate. Because the calls were monthly, spouses would forget about them. Daily schedules changed with the seasons and with children's practices and school schedules, and another family or work would commitment take precedence. In general, *"It was hard to work around everyone's schedules."* Marital changes could also be a factor. As one spouse reported, *"I split up with husband, had to get a job, have two kids....I always had to work on the night we did our group."* One spouse summarized the frequent chaos that she and many of the spouses experienced: *"My personal schedule changes constantly."* Another put it even more succinctly, *"My busy, busy life."*

With monthly sessions, if spouses missed a session, they had two months between group meetings. *"If something critical occurred last minute and I was unable to attend, then I felt I missed something which I was unable to regain (knowledge and support). I wished there was a way to dial in later with a code and listen to what was discussed."* In addition, spouses reported having a need to talk with the group more often than monthly. One spouse summed up her need, *"Thirty days is a long time... thirty days of hell for some people."*

For many spouses, the hour-long calls were too short. Spouses wanted more time to talk and share strategies related to the topic. Spouses suggested a variety of ways to make up sessions and to supplement the sessions, including repeat sessions of the same topic, online information, Facebook groups, and a special blog for questions and issues that arise between calls. In addition to their request that sessions occur more frequently than monthly, they also suggested a shorter time commitment than a year.

When the telephone support group intervention was initially proposed, the timeline for inclusion was after one month post deployment. Because reintegration difficulties and mental health problems for service members increase during the first year post deployment, our expectation was that spouses would have a need for support during or shortly after the first year. Although the average time since deployment return for this group of spouses was more than two years, spouses did report a need for the information sooner. *"I also wish this information could have been presented to us 6 months earlier so we could watch for the signs."* *"Start it sooner (pre-deployment or during deployment) so you have the skills before and know where to go."*

Based on spouses' suggestions, we are currently testing two models of providing education, skills and support to spouses of post deployment service members, telephone support groups and online webinars, compared to usual care. The Spouse READI (Resilience Education and Deployment Information) randomized controlled trial is also funded by the Defense Health Program (DHP), managed by the U.S. Army Medical Research and Materiel Command. The interventions are six months long, meet twice monthly, and each session is repeated three times during two weeks so that participants have the option of a make-up session. The telephone support groups have a shorter didactic presentation and a longer time for spouse interaction. An additional study, Spouse Deployed, also funded by the Defense Health Program, managed by the U.S. Army Medical Research and Materiel Command, is examining the provision of telephone support groups during deployment. These groups will help spouses learn skills to better manage deployment and post deployment transitions.

## **The Future**

### **Implementation into Practice**

In May 2010, Public Law 111-163 Caregivers and Veterans Omnibus Health Services Act of 2010 was signed into law. The Act allows VA to provide benefits to caregivers who support the Veterans who have sacrificed for our Nation. As part of this initiative, the VA is rolling out the Spouse Telephone Support (STS) program, telephone support groups for spouses of Iraq and Afghanistan Veterans. The initial impetus for the STS program came from the testimony before Congress of a spouse who was participating in our telephone support groups. STS is designed to improve spouse resilience and coping and ease the post-deployment transition for Iraq and Afghanistan Veterans. Staff from each VA Medical Center will be trained and certified in delivering the intervention. Training, materials including Spouse Workbooks, and coaching will be provided by the Veterans Health Administration through the Memphis VA Medical Center.

Spouses' requests and suggestions have influenced the design of the groups and the sessions. Over the course of six months, 6 to 10 spouses and a trained and certified Group Leader participate in 12 hour-long calls that include education, skills building and support but with more time allocated for spouse participation. There are repeat sessions available for spouses who must miss a session. A Spouse Workbook given to each group member provides information for each of the sessions. With the Army's disuse of the term BATTLEMIND and its focus on resilience for service members and families, the focus has been placed more on the spouses and their concerns while still acknowledging their role as the support of the service member and the center of their families. The Workbook/Session topics target problem solving and communication, relationships, mental health and psychological conditions, and building the spouse's resilience and strengths.

### **Research Implications**

As this intervention is implemented, evaluation of its effectiveness will be undertaken. Our support groups were telephone based with participants recruited nationally who generally did not know each other, although at least one group was composed of individuals who had met. VA clinicians who will be presenting the support groups are preparing to test several different models, such as face-to-face groups and including participants from one local area who may have met each other. These and other models will need to be tested for effectiveness and accessibility. Participants had suggested many other ways to connect in addition to the telephone, such as through social media or online or videoconferencing and these models should be tested. Although social media provide a very accessible and popular way for people to connect, privacy and security concerns and the potential for unauthorized access to group information, will also need to be addressed. Computer and smart phone applications, such as the PTSD Coach app, developed by the VA's National Center for PTSD, are another way to provide information and skills building to spouses and should be investigated for this population.

### **Clinical Implications**

For clinicians, these telephone support groups and the comments made by the spouses suggest a need to remember the spouse's concerns when treating a service member or veteran. Spouses can have a dramatic effect on the reintegration of the family after deployment and can be a major support for the service member/veteran. Conversely, it is important to remember that military and veteran spouses are dealing with challenging and unique situations that civilian spouses do not routinely encounter. Spouses are more likely to report that stress or emotional problems impact their work or other activities than are service members (21.7% vs. 6.2%). When they seek

care for these concerns, it is generally from a primary care provider (Hoge, Castro, and Eaton, 2006). Military and veteran spouses may need special attention from their community primary care and mental health providers, particularly for Guard, Reserve and veteran spouses who are not near a military installation and do not have other military support.

## **Conclusion**

Telephone support groups proved to be a useful way to increase information, build skills, and provide support for spouses of Iraq and Afghanistan service members who were post deployment. Over the course of the study, spouses reported a decreased level of concern about the effects of reintegration on their social life, their home life, their relationship as a couple, their family, their husband, and themselves.

Most of our participants entered the study after their husbands had been home from deployment more than two years, suggesting that they and their families were still struggling with reintegration. Providing education, support and practical strategies early and ongoing for spouses could help them support the service member, assist the family with the transition, and perhaps avoid their own negative mental health consequences. This type of training is in accordance with recommendations made for training for families as part of the Comprehensive Soldier Fitness Program (Gottman et al, 2011). However, while face-to-face training with travel included could be cost prohibitive, telephone support groups could be provided at a much lower cost.

One strong concern of the spouses was to have more of an appreciation of them as individuals and less of a focus on their role as a support for the service member. Although they acknowledged that their support role is critical in their families, they did not always feel that their contributions were honored and respected. More importantly, they often felt that they receded, or were perceived to have receded, into the military spouse role and had lost some of their identity as a person separate from that role. Our country is well aware of its duty to our service members and veterans; we must expand that duty to highlight the importance of their spouses.

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Table 1. Adjustment difficulties reported by Army spouses, 2004/2005 (Booth et al., 2007)

<b>After your spouse returned from deployment how easy/difficult has it been adjusting to the following?</b>	<b>"Difficult" or "Very difficult"</b>
Changes in mood/personality of spouse	43%
Disciplining/handling children*	36%
Reestablish roles	35%
Communication with one another	32%
Daily household routines	26%
Meeting children's expectations*	23%
Making household decisions	23%
Marital intimacy	20%

\*Among spouses with children

Table 2. Sessions, Topics and Content for Spouse Intervention Sessions

Session	Content
<b>1 Introduction</b> Note: "Red Flag" behaviors discussed at each session along with resources to address specific concerns	Introductions; Format of support group; Expectations; Transition from combat to home; Normalize transition difficulties, Discuss adaptation as goal; Overview of intervention and Participant Workbook; Problem solving model and techniques to be used during each session; Cognitive restructuring techniques to be used during each session.
<b>BATTLEMIND Sessions</b>	
<b>2 Bonds (Social Support)</b>	Coping skills aimed at social reintegration; Spouse (SP) and service member (SM) sources of support during deployment; Strategies to keep those sources while increasing positive family/ couple time; Open communication; Techniques for gradual community reentry for SM; Ways SP can support SM during readjustment to home.
<b>3 Adding and Subtracting Family Roles</b>	Skills for negotiating family roles and communication; Loss of roles by SM and taking on by SP during deployment; Expectations of roles by each post-deployment; Acknowledgment and encouragement of roles that SM and SP shared during deployment with focus on strengths of couple and family members; Effective negotiation methods to reset roles/expectations of family members during post deployment adjustment.
<b>4 Taking Control</b>	Negotiation skills and stress/anger management; Awareness of escalating body signals (breathing, heart rate, etc.); Time out; Anger management; Relaxation methods to manage stress through use of self awareness; Awareness of stress levels in SP or family members.
<b>5 Talking It Out</b>	Communication skills; How to deal with expectations of others and self; Clear, open, and consistent communication and boundaries; Active listening skills; Strategies for healthy conflict resolution to fortify mutual goals of SM and SP.
<b>6 Loyalty and Commitment</b>	SM and SP commitment to relationship; Recommitment to relationship to strengthen support for each other during times of stress; Understand dynamics of couples in relationships; Importance of commitment and encouragement for optimum functioning as individuals, couple and family.
<b>7 Emotional Balance</b>	Skills and strategies for communicating, expressing and coping with emotions and intimacy; Recognition of importance of fidelity and trust in relationships; Emotional grounding for control and compassion for SP and SM; Timing of return to intimacy and unrealistic expectations; Strategies for expressing emotional needs as a couple.

8	<b>Mental Health and Readiness</b>	Recognition of need for mental health assistance for SP, SM, or children; Where to find local and national resources; Reinforce resiliency through recognition of situations where SP and SM have demonstrated good coping skills in difficult situations; PTSD and TBI behavior changes and expectations; Identify situations where additional assistance may be needed to help with adjustment issues and concerns.
9	<b>Independence</b>	Changes in SP and SM's independence and how to compromise; Restore interdependence; Recognition and support of both individuals and couples independence; Healthy and unhealthy beliefs about relationships; Identify healthy communication techniques in a relationship; Effective methods to negotiate decision making and compromise in a relationship.
10	<b>Navigating the Military/VA/Community System</b>	Resources available to SMs and family members; Strategies to ensure assistance is received in a timely manner; Resource experiences that have been beneficial to the family; Community support available to military families; Proactive methods to seek assistance from family, friends and community through effective ways to ask for help; Rehearsal of how to ask for help.
11	<b>Denial of Self (Self-Sacrifice)</b>	Ways SPs and SMs can express appreciation for sacrifices; Honor commitments that SP and SM have made to each other and to the country; Plan for your future.
<b>Termination Session</b>		
12	<b>Moving Forward</b>	Discuss gains, next steps, coping with problems; Identify areas needing continued attention/cues for family members needing help; Recap of intervention with emphasis on the resiliency model for continued strengthening of couple and family; Review of ways to identify and proactively approach and problem solve situations that are a normal part of reintegration.

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Table 3. Group Session Components

<b>Component</b>	<b>Time</b>	<b>Description</b>
Welcome	5	Introduction to session, signal breath relaxation exercise to segue and help focus on session
Check in and review of strategies from last call	15	Status since last call; review of strategies tried; minimizing barriers to implementing strategies
Didactic topic presentation	15	Information on the predetermined topic
Practice and discussion of ways to implement strategies from presentation	20	Discussion by participants about their experience with topic area and how they can implement; practice use of techniques; identification of barriers to implementing strategies
Closure	5	Overview; commitment; reminder of next date and topic, signal breath relaxation exercise

Table 4. Characteristics of Spouses (N = 86)

<b>Variable</b>	<b>M ± SD or %</b>
Demographic	
Age, years	37.4 ± 9.0
Years Married	10.4 ± 8.2
Children, number	1.5 ± 1.2
Race	
White	84.9
Black	10.5
Native American	2.3
Asian/Pacific Islander	2.3
Ethnicity, Latino	10.5
Education	14.3 ± 2.4
Employed	57.0
Household Income, monthly	4881 ± 2703

Table 5. Characteristics of Service Members (N = 86)

Variable	M ± SD or %
Demographic	
Employed	65.1
Branch of service	
Army National Guard	40.7
Army	37.2
Marines	8.1
Navy	5.8
Army Reserve	4.7
Air Force	1.2
Air Force Reserve	1.2
Air National Guard	1.2
Class	
Non-commissioned officer	61.6
Commissioned officer	15.1
Senior NCO	11.6
Junior enlisted	5.8
Warrant officer	3.5
Status	
Retired	31.4
Serving in guard or reserve	26.7
Serving in regular military	25.6
Discharged	10.5
Other	5.8
Receive VA services	59.3
Deployment	
Deployments, number	2.6 ± 2.8
Months since return	28.6 ± 21.6
Months of last deployment	11.6 ± 5.4
Injured	64.0

Table 6. Potential Reintegration Concern Summary Questions over Time (N=86)

<b>Variable</b>	<b>Baseline</b>	<b>6 Months</b>	<b>12 Months</b>	<b><i>p</i>-value<sup>a</sup></b>	<b><i>d</i></b>
	<b>M ± SD</b>	<b>M ± SD</b>	<b>M ± SD</b>		
Social life concern (1-4)	1.95 ± 1.05	1.77 ± 0.90	1.65 ± 0.82	.02	.29
Home life concern (1-4)	2.21 ± 1.03	1.93 ± 0.98	1.81 ± 0.94	.001	.39
Couple concern (1-4)	2.09 ± 1.07	1.90 ± 1.00	1.87 ± 0.96	.10	.21
Family concern (1-4)	2.22 ± 0.94	2.18 ± 1.07	1.88 ± 1.02	.001	.36
Concern with service member (1-4)	2.73 ± 1.00	2.47 ± 1.03	2.29 ± 1.07	<.001	.44
Concern about self (1-4)	2.06 ± 0.94	1.86 ± 0.98	1.72 ± 0.86	.002	.36

Note: <sup>a</sup>*p*-value is for change over time.

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Anxiety, Social Support, and Physical Health in a Sample of Spouses of OEF/OIF Service  
Members

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Military spouses are at risk for experiencing high levels of stress, both while their significant other is deployed and upon return. Children, finances, and worry about the deployed are just a few of the stressors spouses often face.<sup>1</sup> The current military conflicts are resulting in a high rate of redeployment, the likes of which have not been seen since World War II. Additionally, service members are being subjected to deployments as long as 15 months in length. This is highly stressful for service members whose rates of developing psychological disorders like posttraumatic stress disorder are positively correlated with length of deployment and number of deployments.<sup>2</sup> Post-deployment can be a time fraught with considerable stress, where reunion functions as a stressor in its own right. Readjustment can be a taxing process and 22% of spouses of Operation Enduring Freedom and Operation Iraqi Freedom (OEF/OIF) veterans report reunion to be “difficult” or “very difficult”.<sup>1</sup> Similar to research with service members, deployment and the length of deployments have been associated with worse mental health in spouses. Mansfield and colleagues<sup>3</sup> found that prolonged deployment was associated with more mental health diagnoses post-deployment among army wives, including anxiety disorders, depressive disorders, sleep disorders, acute stress disorders, and adjustment disorders. A study of U.S. soldiers and Marines found that post-deployment, military spouses experienced similar rates of major depressive disorder and generalized anxiety disorder (GAD) to married service members, although spouses were more likely to report that emotional problems and stress were having a significant impact on their lives.<sup>4</sup> High prevalence of psychopathology in spouses is particularly important because of the emerging research on comorbidity with medical conditions.

Research has shown high rates of medical illness in psychiatric populations, particularly in depressed individuals.<sup>5</sup> More recently there has been an increased focus on the relationship between anxiety and physical health. The presence of anxiety disorders has been associated with higher prevalence of physiological comorbidities when compared to healthy controls. Harter and colleagues<sup>6</sup> found that, even after controlling for gender, comorbid substance use disorders, and depression, individuals with anxiety disorders were more likely to report cardiac disorders, hypertension, gastrointestinal problems, genitourinary disorders, and migraine. Another study found that anxiety disorders were not only associated with a number of medical illnesses, but were also significantly associated with poorer health related quality of life and disability.<sup>7</sup> Therefore, the stress of military deployments puts spouses at risk for negative mental and physical health outcomes.

One of the most natural protective structures in a spouse’s world is likely to be the local community. This social support structure may serve as a buffer against the stress of the deployment cycle.<sup>8,9,10</sup> Evidence for the buffering hypothesis of social support has been inconsistent, but Rosen and Moghadam<sup>11</sup> found that of several sources of perceived social support only perceived support from wives of service members from the same unit served as a buffer against a service member’s absence. More recent research on social support has indicated that certain forms of social support may be more effective than others. Moelker and colleagues<sup>12</sup> found that support from family, friends, and neighbors was deemed to be more useful than family support rendered by the army.

The purpose of the present paper was to explore the roles of social support and elevated anxiety in relation to physical health in a sample of spouses of OEF/OIF service members. The stressful circumstances of separation and reunion can have negative effects on the marriage, family, and especially the spouse’s psychological and physical health. Prior research has

focused either on the prevalence of psychiatric diagnoses or the role of social support in the lives of military spouses. This paper emphasizes the intersection between anxiety and the potential buffering effects of social support for spouses of returning service members and seeks to extend the research on the negative effects of deployment on the mental health of military spouses by incorporating measures of perceived social support and physical health outcomes.

## Methods

The sample was comprised of 86 spouses of returning OEF/OIF service members. Participants in this paper were recruited nationally for a pilot trial of a military spouse post deployment telephone support group. Eligible participants were married to a service member, or living as married, for at least one year. They were spouses of service members who had been home for at least one month. Eligible spouses were in a committed relationship with the service member throughout his deployment and had telephone access. Individuals were excluded from this study if they had any auditory impairment that precluded telephone use or if assent for spouse's participation was not given by the service member. Spouses of returning service members were recruited through multiple avenues (Welcome home events, Veterans Affairs Medical Centers, The Wounded Warrior Project, military bases, online, etc.). The majority of participants contacted the study through email. Potential participants were sent informational materials. We screened interested individuals by telephone and obtained their consent for study participation. Data were also collected by telephone.

## Measures

**Generalized Anxiety Disorder -7 (GAD-7).** The GAD-7 is a 7-item screening measure for anxiety disorders, with a focus on the symptoms of generalized anxiety disorder based on DSM-IV-TR diagnostic criteria. Participants rate the frequency of distress due to anxiety symptoms over the past 2 weeks on a scale ranging from (0) "Not at all" to (3) "Nearly Every Day." The GAD-7 has shown good internal consistency reliability at .92.<sup>13</sup> Scores on the GAD-7 range from 0 to 21 and a cut point of 10 has demonstrated good sensitivity (.89) and specificity (.82) in the detection of generalized anxiety disorder.<sup>13</sup>

**Social Support Index (SSI).** The SSI is a 17-item measure assessing the degree to which the family sees the community as a form of support as well as the level of integration of a family into their local community. The SSI was developed for the assessment of support related resilience in military families. Participants rate their level of agreement with statements concerning their community. Items like "People can depend on each other in this community" are rated on a scale ranging from (0) "Strongly Disagree" to (4) "Strongly Agree," with total social support scores ranging from 0 to 68. The social support index has shown good internal consistency reliability at .82.<sup>14</sup>

**Self-Perceived Health.** Self-perceived health was evaluated by a single item addressing general health. This item was drawn from the health and health behaviors questionnaire of the Resources for Enhancing Alzheimer's Caregivers II (REACH II) project.<sup>15</sup> Participants rated their general health on a 5-point likert scale with anchor points of (0) "Excellent," (1) "Very good," (2) "Good," (3) "Fair," and (4) "Poor."

**Physical Health Comorbidities.** These physical problems were assessed by summing the scores (“Yes” - 1, “No” - 0) in response to two questions, “Do you have, or has a doctor told you that you currently have, any of the following health problems (High Blood Pressure, Stomach ulcers, irritable bowel syndrome, or any other serious problems with your stomach or bowels)?” These items were also drawn from the REACH II project.<sup>15</sup>

#### Data Analysis Plan

For the purposes of group comparisons, analysis of variance (ANOVA) tests were conducted to assess group differences between GAD (GAD-7 score > 10) and non-GAD participants on social support, overall self-perceived health, and prevalence of physical health comorbidities. One-way ANOVAs were run to assess for differences between GAD and non-GAD participants on social support, overall self-perceived health, and prevalence of physical health comorbidities. We estimated path analyses to assess the impact of social support and anxiety on physical health using social support (SSI) and anxiety (GAD-7) as the independent variables regressed simultaneously on spouse health variables.

#### Results

The sample was predominantly Caucasian ( $N = 73$ ; 84.9%), all participants were female and the mean age of participants was 37.4 ( $SD = 8.97$ ) years. On average spouses had been married to their significant other for 10.4 ( $SD = 8.17$ ) years. The number of service member deployments ranged from 1 to 20 ( $M = 2.55$ ,  $SD = 2.77$ ). The majority of service members were non-commissioned officers ( $N = 61.6\%$ ) (See Table 1). Service members were largely Army (83%: Active Duty, Reserve, National Guard) with representatives from the Marines (8%), Air Force (3%: Active Duty, Reserve, National Guard), and Navy (6%). The mean GAD-7 score was 8.94 ( $SD = 5.70$ ). The sample had a mean SSI score of 44.00 ( $SD = 8.63$ ), a mean self-perceived health score of 1.92 ( $SD = 0.99$ ), and a mean physical health comorbidities score of .51 ( $SD = 0.68$ ).

Using the GAD-7 cut point score of 10, 44.2% ( $N = 38$ ) of participants screened positive for GAD. The groups (GAD positive screen and GAD negative screen) did not differ on any demographic variables reported (See Table 2). Significant group differences emerged between the GAD ( $M = 40.95$ ,  $SD = 8.59$ ) and non-GAD ( $M = 46.42$ ,  $SD = 7.95$ ) groups on social support ( $F(1, 84) = 9.34$ ,  $p = .003$ ). Differences were also found between the GAD ( $M = 2.39$ ,  $SD = 0.72$ ) and non-GAD ( $M = 1.54$ ,  $SD = 1.01$ ) group on the spouse’s self-perceived health ( $F(1, 84) = 19.35$ ,  $p < .001$ ). Significant differences also emerged between the GAD ( $M = 0.74$ ,  $SD = 0.76$ ) and non-GAD ( $M = 0.32$ ,  $SD = 0.56$ ) groups on physical health comorbidities ( $F(1, 83) = 8.55$ ,  $p = .004$ ).

Correlation and path analyses to examine the relationship between heightened anxiety, social support and physical health were conducted using Predictive Analytic Software 18 (See Table 3). The path analysis model estimated with anxiety and social support predicting perception of the spouses’ overall health accounted for approximately 23% of the variance in the perception of health outcome variable ( $F(2, 83) = 12.14$ ,  $p < .001$ ). The path coefficient from anxiety was significant and positive (0.44) while the path coefficient of social support was non-significant and negative (-0.08) (See Figure 1).



The next path analysis model with physical health comorbidities regressed on anxiety and social support was also statistically significant but only accounted for approximately 8% of the variance in the outcome variable ( $F(2, 82) = 3.49, p = .035$ ). Both independent variables contributed non-significantly to the model, with anxiety contributing a positive path coefficient (0.17), and social support a negative path coefficient (-0.16) (See Figure 2).

## Discussion

To our knowledge this is the first investigation examining the relationship between heightened anxiety, social support, and physical health in spouses of service members. Psychological disorders, in particular anxiety disorders, have been associated with poor health outcomes. Social support may function as a buffer to the stressors experienced by spouses of returning service members during and after deployment.

In this sample all predictor and outcome variables were correlated (See Table 3). As expected, the non-GAD group reported higher levels of social support than the GAD group. Conversely, the GAD group was more likely to endorse having poor health and physical health comorbidities than the non-GAD group. These findings are consistent with prior research, indicating that social support may serve as a protective factor for psychological health<sup>16</sup> and that heightened levels of anxiety are associated with poor health and health related quality of life.<sup>6,7</sup>

With respect to path analysis, our first model, explaining self-perceived health, showed GAD-7 anxiety scores to have more than four times the strength of effect on perception of health than social support. Twenty-three percent of self-perceived health variance was explained by anxiety and social support together. Individuals with higher anxiety scores had worse perception of their overall health, as expected.

In our second path analysis model explaining physical health comorbidities, neither anxiety nor social support yielded statistically significant path coefficients, and together they explained 8% of comorbidities. Interestingly, despite heightened anxiety differentiating between groups in terms of physical health comorbidities, no significant effects were evidenced for either predictor when the other was controlled for statistically.

These findings highlight the importance of the relationship between anxiety and self-perceived physical health. The weak relationship between social support and self-perceived health in the first model is consistent with previous research, which has shown inconsistent support for the stress-buffering hypothesis of social support.<sup>17</sup>

Despite the differences shown in the amounts of perceived social support between the GAD and non-GAD group, it is clear that heightened levels of anxiety are a critical factor to be addressed. This does not preclude the potential importance of social support for spouses. Measures of perceived social support, like the one employed in this study, are likely to be influenced by maladaptive cognitions that tend to accompany anxiety disorders and may not reflect the actual levels of social support available and provided to the spouse. Instead, it indicates the importance of further research on the benefits of specific dimensions of social support provided and received (e.g., emotional, tangible, advice) for spouses of service members at various points in the deployment cycle.

The cross-sectional nature of this study limits causal interpretations. Additionally, the small sample size is a limitation of the study. The absence of a diagnostic, interview-based,

measure of anxiety is a limitation although the GAD-7 is a recognized clinical screening instrument. Other limitations include the select number of comorbidities assessed and the absence of objective information on health functioning such as chart diagnoses and test results. Despite the select number of comorbidities, the physical health comorbidities assessed in this study are among the most common pathologies reported in individuals with heightened anxiety.<sup>5,6</sup>

In conclusion, given that research has shown spouses of service members to be at high risk for developing psychological disorders like generalized anxiety disorder and the high rates of somaticizing within this population, it is essential for primary care physicians to be adept at identifying anxiety symptoms in military or veteran spouses presenting with medical illnesses. Spouses presenting for services in primary care clinics should be screened for anxiety disorders, and the presence of an anxiety disorder should be factored in when addressing physical health complaints. This indicates the importance of psychiatric consultation in primary care clinics. The complex and reciprocal interactions between physical and mental illnesses point to the need for more research on the relationship between mental and physical health comorbidities.

The relatively frequent presentation of spouses of deployed service members for mental health services in primary care clinics also points to the need for adequate and appropriate treatment options available once a diagnosis has been made. Additionally, this highlights the importance of communication between physicians and mental health professionals and ultimately the integration of mental health and medical care.

Table 1. Rank of Service Member

	Frequency (%)
Junior Enlisted	5.8
Noncommissioned Officer	61.6
Senior Noncommissioned Officer	11.6
Officer/Warrant Officer	18.6

Table 2. GAD and Non-GAD Demographics

	<b>GAD</b>	<b>Non-GAD</b>
	<b>(n = 38)</b>	<b>(n = 48)</b>
	<b>M (SD)</b>	<b>M (SD)</b>
Demographic Variables		
Age, years	38.21 (8.87)	36.68 (9.07)
Years Married	10.51 (7.41)	10.30 (8.80)
Education	14.32 (2.48)	14.21 (2.27)
Household Income, monthly	4633.70 (2805.59)	5093.00 (2625.90)
Number of Deployments	3.08 (3.82)	2.13 (1.39)
Female (%)	100.0	100.0
Employed (%)	47.4	64.6
Race (%)		
White	81.6	87.5
Black	13.2	8.3
Native American	2.6	2.1
Asian/Pacific Islander	2.6	2.1
Ethnicity, Latino (%)	10.5	10.4

Table 3. Bivariate correlations between outcome and predictor variables

	GAD-7	SSI	Self-perceived health	Physical health problems
GAD-7	-			
SSI	-.38**	-		
Self-perceived health	.47**	-.24*	-	
Physical health problems	.24*	-.23*	.34**	-

\*\*p < .01, \*p < .05



Figure 1.

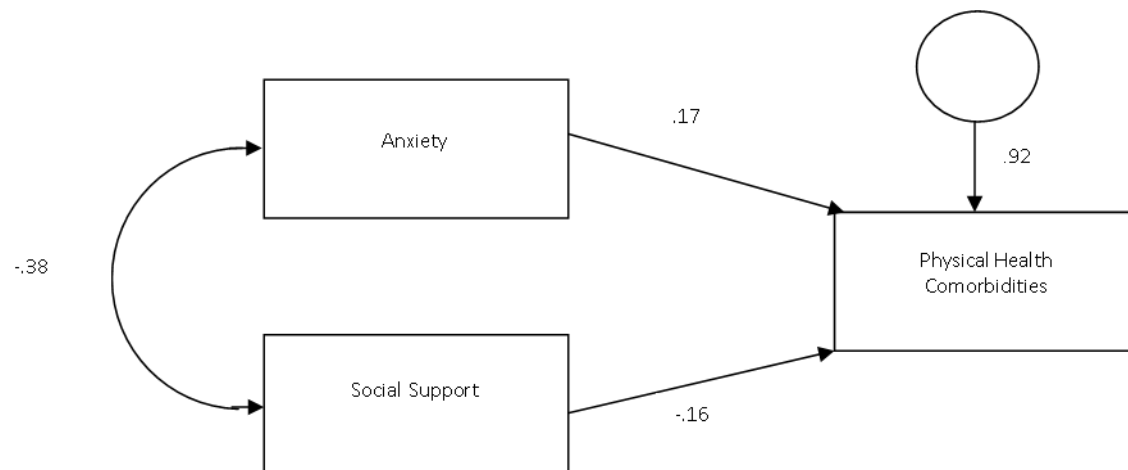


Figure 2.

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Appendix - Article, Please do not quote without permission.

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**Easing Reintegration: Telephone Support Groups for Spouses  
of Returning Iraq and Afghanistan Service Members**

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## **Abstract**

Spouses of returning Iraq and Afghanistan military service members report increased depression and anxiety post deployment as they work to reintegrate the family and service member. Reconnecting the family, renegotiating roles that have shifted, reestablishing communication patterns, and dealing with mental health concerns are all tasks that spouses must undertake as part of reintegration. We tested telephone support groups focusing on helping spouses with these basic reintegration tasks. Over the course of the year-long groups, spouse depression and anxiety were decreased and perceived social support was increased. In subgroup analysis, spouses who had husbands whose injuries caused care difficulties, compared to those who had no injury or whose injury did not cause care difficulty, were more likely to be depressed, anxious, and have less social support. These differences were at baseline and persisted throughout the study, although injury/difficulty spouses had a strong positive response to the intervention.

Study findings suggest that this type of low technology, high access intervention can help improve quality of life for military spouses who are struggling with reintegration of the service member and family.

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## Introduction

Military deployment can negatively affect marriages. Spouses of Active Duty service members who have been deployed to Iraq and Afghanistan show mental health diagnoses of depression, anxiety, sleep disorders and acute stress reaction and adjustment disorders (Mansfield et al., 2010), with rates that are similar to that of service members (Eaton et al., 2008). Spouses are more likely to report that stress or emotional problems impact their work or other activities than are service members (21.7% vs. 6.2%) (Hoge, Castro, and Eaton 2006). National Guard spouses are also at risk, with 34%, compared to 40% of Guard members, screening positive for mental health problems (Gorman, Blow, Ames and Reed, 2011).

Approximately 17 to 30% of returning Iraq war veterans suffer from depression, anxiety and PTSD symptoms (Hoge et al., 2004; Howard, 2007) and these problems increase during the first year post deployment (Hoge, Auchterlonie, and Milliken 2006). Although deployment does not necessarily lead to divorce (Karney and Crown, 2011), combat troops who have been deployed to Iraq report increased marital dissatisfaction, intention to divorce, and spouse abuse, particularly at 12-months post deployment (Hoge, Castro, and Eaton 2006). At six months post deployment, service member concerns about interpersonal conflicts rise dramatically (Miliken, Auchterlonie and Hoge, 2007).

Reintegration can be a source of conflict for spouses and service members. Communication difficulties after time apart (Faber, Willerton, Clymer, MacDermid, and Weiss, 2008; Knobloch and Theiss, 2011; MacDermid 2006) can lead to misunderstandings and conflict. Re-negotiating roles and responsibilities that have changed during deployment can be a particular source of conflict and stress (Blow et al., 2011; Faber et al., 2008; Bell, & Schumm 2000; Drummet, Coleman, & Cable 2003; Hosek, Kavanagh, & Miller, 2006; Segal & Segal, 2003). Family members report difficulty resuming previous patterns of roles and responsibilities, determining how to negotiate new roles and responsibilities, and giving up roles taken on during deployment (Knobloch and Theiss, 2011; Sayers, Farrow, Ross, and Oslin, 2009). For significant others and families of service members with Post Traumatic Stress Disorder (PTSD) symptoms, family functioning is likely to be even more impaired (Dekel and Monson, 2010).

To support military families with reintegration, recommendations have been made to provide evidence based longer-term support that covers strategies on how to deal with deployments and reunions (Booth, Wechsler Segal, and Bell, 2007). However, many military families do not use resources that are available, perhaps because the resources are not in a form that families feel comfortable with or do not address the particular stressors that families are experiencing (Di Nola, 2008). When spouses do seek care for stress or emotional problems, care is usually sought from a primary care provider. Work and childcare are the most common barriers to accessing care (Hoge, Castro, and Eaton 2006). Because they are not on base, Reserve and Guard families are less likely to have access to military resources, may not have other unit members in the same town, and, therefore, may not have support from other military spouses, which is an important resource for military wives (Blow et al., 2011; Burrell, Durand, and Fortado, 2003; Gorman et al., 2011; Gottman, Gottman and Atkins, 2011).

To meet the needs of spouses, while being sensitive to the lack of local resources, we developed a telephone support group intervention, funded through the Defense Health Program (DHP), managed by the U.S. Army Medical Research and Materiel Command. Our goal was to

develop an intervention that would be widely accessible to military spouses and would provide ongoing assistance during post deployment.

## **Methods**

### **Participants**

To be eligible for the proposed study, the participant had to have been married to or living as married with a service member who had deployed to Iraq or Afghanistan and was at least 1 month post-deployment. Per the VA Medical Center Memphis Institutional Review Board, which oversaw the study, each service member had to give assent for his/her spouse to participate and this assent had to be reported to the study team at the time of spouse consent.

Participants were recruited through several means, including online by the study web site, through brochures, through e-mails, and through referrals from military family advocates and VA clinicians. In addition, 26 participants were enrolled directly through the Wounded Warrior Project (WWP) just as general recruitment ended. Therefore, these latter participants were in telephone support groups with other WWP members and some of them knew each other, at least from a weekend encounter.

### **Intervention**

There were 14 telephone groups each with 5 to 10 members and a trained mental health professional Group Leader. Each of the groups met 12 times during one year. The hour long sessions used a Spouse Workbook that had material related to each topic, including skills building exercises. Topics focused on reintegration tasks related to problem solving, social support, role negotiation, stress and coping, communication and conflict management, relationships and intimacy, mental health issues, and resources. In addition, Red Flag topics referred to potentially dangerous or unsafe situations and behaviors and the need for increased awareness on the part of spouses. Red Flags included abuse and addictions, child abuse, depression, domestic violence, grief, stress and reintegration, suicide prevention, and anger.

The intervention content was based on the Spouse BATTLEMIND concept, derived from the Army's Soldier BATTLEMIND training, which helped soldiers transition from combat to home life. Spouse BATTLEMIND training was originally developed as a 1.5 hour training for spouses as an adjunct to the service member training (Riviere, Clark, Cox, Kendall-Robbins, and Castro, 2007). For our program, each of the letters of the BATTLEMIND rubric was expanded into an hour-long session with didactic information, training in coping skills and cognitive restructuring, and support.

The telephone groups had a structured format and delivery of the intervention was examined through an assessment of whether each component of the intervention was delivered. Spouses were encouraged to practice skills during the session through role play, self talk, and modeling of appropriate behavior and to make a commitment at the end of each session to select and practice at least one strategy or skill between sessions (Najavits, 2002). Treatment implementation receipt was measured through the amount of interaction and active learning exhibited by spouses. At the beginning of the next telephone session, during check-in, as a way to determine enactment, each spouse was queried about her commitment, whether she tried it, and whether it worked, and barriers to implementation were problem solved by the entire group.

### Measures/Outcomes

All data collection was by telephone with response cards sent to the participant to make answering more efficient. Data collection was at baseline, 6 and 12 months. Data collection took approximately 30 minutes. The same Research Associate performed all data collection for a participant. Outcomes included spouse depression, anxiety, relationship satisfaction, social support, and family coping and family communication/problem-solving.

The Patient Health Questionnaire (PHQ-9 (Kroenke, Spitzer, and Williams 2001) was used to assess *depression*. The PHQ-9 has 9 items based on the DSM-IV depression diagnostic criteria that are scored from 0 (not at all) to 3 (nearly every day). Scores are summed to characterize depression as minimal (0 to 4), mild (5 to 9), moderate (10 to 14), moderately severe (15 to 19), or high/severe (20 to 27). On the PHQ-9, major depressive syndrome is suggested if 5 or more items or the first two items, (interest and feeling depressed, also known as the PHQ-2) are ranked positive (at least "more than half the days").

The GAD-7 was used to assess *anxiety*. The GAD-7 contains a 7-item checklist of anxiety symptoms focusing primarily on generalized anxiety disorder. The measure has good performance in also detecting other anxiety disorders (panic disorder, social anxiety disorder, and PTSD) (66). Scoring for each item ranges from 0 (not at all) to 2 (more than half the days) for an overall score of 0 to 14; higher scores indicate more anxiety. Sensitivity is .89 and specificity is .82 (Spitzer, Kroenke, Williams, and Löwe, 2006).

The Quality of Marriage Index (QMI) (Norton, 1983) is a short and simple measure of global *relationship satisfaction*. A 7-point scale is used for rating five of the six QMI items, with the last QMI item rated on a 10-point scale. Total scores range from 6 to 45, with higher scores reflecting greater relationship satisfaction. The measure has high internal consistency (alpha coefficient for both women and men = 0.97) and excellent convergent and discriminant validity (Heyman, Sayers, and Bellack, 1994).

Spouse *social support* was measured using the Social Support Index (SSI) (McCubbin, Patterson, and Glynn, 1996), which has been used with military families and has been shown to be an important predictor of family resilience and is positively correlated with families' confidence in coping. There are 17 questions focusing on family and community support. The questions are scored on a five-point scale and after reverse scoring, items are summed. The SSI has very good internal consistency with an alpha of .82 and test-retest correlation of .83 and good concurrent validity.

Family *coping* ability, from spouse self-report, was measured with the Family Crisis Oriented Personal Evaluation Scales (F-COPES), which has been used with military families (McCubbin, Larsen, and Olson, 1987). The F-COPES is a 30-item instrument to identify problem solving and behavioral strategies utilized by families in difficult or problematic situations. There are five subscales that assess acquiring social support, reframing (redefining stressful events to make them more manageable), seeking spiritual support, mobilizing family to acquire and accept help, and passive appraisal (ability to accept problematic issues). All items are scored from 1 (strongly disagree) to 5 (strongly agree) and after appropriate reverse scoring, subscales and overall score are summed. The F-COPES has very good internal consistency with an alpha of .86. Individual subscales have alphas from 0.63 to 0.81 and test-retest correlations from .61 to .95. The scale has very good factorial validity and good concurrent validity.

The quality of *family communication* is one determinant of how families manage tension and strain and develop good family functioning (McCubbin, McCubbin, and Thompson, (1996). The 10-item Family Problem Solving Communication scale (FPSC) evaluates positive and negative aspects of communication that families use to cope with stress and difficulties and was developed to examine family stress and resiliency. Each item is scored on a 4-point scale from completely false (0) to completely true (3). A total score and two subscale scores (affirming and incendiary communication) can be computed. The FPSC has excellent internal consistency with an alpha of .89 for the total scale and alphas of .86 and .78 for the respective subscales. Test-retest correlation is .86 and the scale has good concurrent validity.

Independent measures were selected to characterize the study sample and to assess factors that have potential to impact the outcome measures and/or the reintegration process. *Demographics* included age, gender, race/ethnicity, marital status, years married, relationship to service member, employment status, number of people in household, ages and relationships, income (categories by income/month), service member's branch of service, age, rank, time in military, time since return, and previous deployments.

Overall *health* from Medical Outcomes Study Short Form-36 (Ware, Kosinski, and Keller, 1996) was scored on a 5-point scale. Lower scores indicate better health. Health compared to others and health post-deployment were rated from better to worse.

### **Data Analysis**

In this study of Telephone Support, each participant served as her own control. Data analysis used mixed-effects models with a compound symmetry covariance structure on all outcome variables except family communication, which had a better fit using unstructured (or general) covariance structure to compare baseline and follow-up scores to estimate the fixed effect parameter of change over time. Each outcome measure was treated as independent of the others. The distributional properties for all variables were inspected to determine appropriateness for analysis methods utilized. P values less than or equal to .05 were considered statistically significant, and those between .05 and .10 were considered to document trends that approached, but did not attain, statistical significance. Outcome analysis included all participants. Data was analyzed across appropriate subgroups to capture important effects that might be hidden in overall results.

Clinical significance, i.e., effect size, is an estimate of the findings' substantive magnitude or clinically meaningful outcomes. For statistically significant comparisons, an effect size (d) of at least 0.2 SD improvement was considered clinically significant, which is consistent with effect sizes reported for psychosocial interventions, which are generally small to medium. Effect sizes were estimated as mean change from baseline to twelve months relative to estimated population standard deviation (Cohen, 1988).

## **Results**

### **Participants**

There were 86 spouses enrolled in 14 groups. Twenty-six participants were referrals from the national Wounded Warrior Project office. Although husbands were welcome, none were recruited so all participants were wives. As shown in Table 1, on average, spouses were 37 years old and had been married about 10 years with 1.5 children. They were predominantly white/Caucasian. More than half were employed, most had greater than a high school education,



and household income was a little less than \$5,000 a month. Spouses reported good health; however, a third felt that their health was worse than others and 45.3% reported worse health since the return of the service member.

- Insert Table 1 about here -

For their husbands, as shown in Table 2, almost half were Guard or Reserve and most were noncommissioned officers. Approximately two thirds were employed and about 60% were receiving VA services. They had had, on average, slightly less than three deployments total with the last deployment lasting almost 1 year. The husbands had been back from deployment a little more than two years. Almost two thirds had been injured during deployment.

- Insert Table 2 about here -

Seventeen spouses (19.8%) were lost to follow-up. There were two significant baseline differences between these spouses and those who provided follow-up data. Non-completers had more children (2.0 vs. 1.4) and worse general health (2.4 vs. 1.8). There were no significant baseline differences between the service members of spouses lost to follow up and those who remained in the study.

### **Outcomes**

Over the course of the study there was a statistically significant improvement in depression, anxiety and social support, as shown in Table 3. There was no significant improvement in marriage quality, family coping or family communication. Clinical significance, measured by effect size ( $d$ ), was .33 for depression, .40 for anxiety, and .17 for social support, over the course of the study.

- Insert Table 3 about here -

Health outcomes improved over the course of the study. At twelve months compared to baseline, smaller percentages of spouses reported worse health than others of the same gender and age (27.1% vs. 32.6%) and worse health since the service member's return (35.7% vs. 45.3%).

### **Examining spouses who are dealing with care difficulties**

One of the questions asked of participants was whether the service member had been injured during combat and whether the injury or illness had caused any difficulties in care for the spouse. There were 48 spouses who reported an injury that caused care difficulties compared to 38 spouses who either reported no injury or no injury that caused care difficulties. Spouses were asked to elaborate on the type of difficulty. Similar to what has been found in the general population of individuals returning from Iraq and Afghanistan, the most common medical conditions mentioned were Traumatic Brain Injury (TBI), Post-Traumatic Stress Disorder (PTSD), and orthopedic problems, such as knee and back injuries. The types of care difficulties included general care burden on the spouse due to problems associated with memory loss and decreased mobility.

When baseline demographics for these two groups of spouses were compared, fewer of the injury/difficulty spouses were employed as were their husbands. The husbands of spouses who reported care difficulties had also been back a longer time compared to non-injury/difficulty husbands (3 years vs. 1.5 years), and were more likely to be discharged from the military and, therefore, using VA services. There were significant differences in health parameters, also, with

injury/difficulty spouses, compared to no injury/no difficulty spouses, reporting worse overall health (2.13 vs. 1.66,  $p = .028$ ). Higher percentages of injury/difficulty spouses, compared to no injury/no difficulty spouses, reported worse health than others of the same gender and age (45.8% vs. 15.8%,  $p = .007$ ) and worse health since the service member's return (60.4% vs. 26.3%,  $p = .003$ ).

As shown in Table 4, over the course of the study, there were statistically significant group differences between these two groups of spouses in depression, anxiety, and social support, with a trend toward a significant difference in quality marriage. There was also a significant group by time interaction for anxiety.

- Insert Table 4 about here -

Clinical effect sizes for the three statistically significant outcomes, as measured by Cohen's (1988)  $d$  were medium for depression and anxiety for the injury/difficulty spouses, while remaining small for the no injury/no difficulty spouses. Social support clinical effect sizes were small for both groups of spouses.

At twelve months, injury/difficulty spouses no longer reported significantly worse overall health than no injury/no difficulty spouses (2.03 vs. 1.69,  $p = .150$ ). However, significant differences persisted between the two groups of spouses in the other two health parameters. A larger percentage of injury/difficulty spouses, compared to no injury/no difficulty spouses, still reported worse health than others of the same gender and age (39.5% vs. 12.5%,  $p = .032$ ) and worse health since the service member's return (47.4% vs. 21.9%,  $p = .004$ ).

## Discussion

The purpose of this pilot study was to demonstrate the feasibility and effectiveness of a telephone support group intervention for spouses of returning Iraq and Afghanistan service members. From baseline to follow-up, spouses reported significantly improved depression, anxiety and social support. Two of the three statistically significant findings, depression and anxiety, also met the criteria for clinical significance with effect sizes  $\geq 0.2$ . These findings suggest that telephone support groups are a viable means of providing information, support, and skills to military spouses.

There were some surprising findings in the study. Recruitment initially targeted only Guard and Reserve spouses with the idea that they would have limited access to resources for military families. However, Active Duty spouses eventually made up half the sample, suggesting that telephone support groups are a viable and useful means of providing information, support, and skills to military spouses, regardless of whether they are near to resources. As originally conceptualized, the study targeted spouses of newly returned service members during the first year post-deployment when reintegration and mental health difficulties have been found to increase. The length of time post-deployment ranged from one month to 80 months with the average time post deployment greater than two years. Clearly, for some families, reintegration tasks continue to provide challenges and concerns several years after deployment is ended.

The intervention focus was on basic reintegration tasks, such as negotiation and communication. When we examined spouses who were also struggling with a husband's illness or injury that caused care difficulties, these spouses were more burdened, with greater depression and anxiety, and less social support and poorer quality of marriage than spouses who did not report an injury or an injury that caused care difficulties. These differences persisted throughout

the study. Despite their added burden of care coupled with the challenges of reintegration and the fact that the intervention was not targeted to dealing with injury, illness or caregiving, these spouses improved over the course of the study. In fact, the injury/difficulty spouses experienced a greater clinical effect in their response to the intervention.

However, despite their strong response, during the twelve months of the study, for the outcomes of depression, anxiety, quality marriage, social support, family coping and family communication, only for family coping did injury /difficulty spouses ever reach the level of the no injury/no difficulty spouses. The same type of pattern showed in the health parameters with injury/difficulty spouses still reporting worse perceived health than no injury/no difficulty spouses. These findings suggest that, although there were good outcomes, both statistically and clinically significant, for injury/difficulty spouses, the burden of care caused by living with a husband with an injury levied a toll on these wives that could not be completely relieved. Could help but not make whole. Figure 1 illustrates this trend with values for depression over the course of the study for the two groups of spouses.

- Insert Figure 1 about here -

Some limitations should be mentioned. For this pilot study, the sample size was small. Some of the Wounded Warrior Project spouses knew each other from participating in a weekend retreat and some corresponded online with each other outside the group. This relationship could have influenced the outcomes positively for these caregivers. Finally, because this was a pilot feasibility study and not a randomized controlled trial, the study findings do not have the scientific rigor of that gold standard. A randomized controlled trial, testing telephone support and online sessions, is underway funded through the Defense Health Program (DHP), managed by the U.S. Army Medical Research and Materiel Command.

The positive results from the study with spouses improving in depression, anxiety, and social support have had implications for public policy. In May 2010, Public Law 111-163 Caregivers and Veterans Omnibus Health Services Act of 2010 was signed, which Act allows VA to provide benefits to caregivers of Veterans. As a testimony to the enthusiasm of the participants for the intervention, as part of this initiative, the VA is rolling out telephone support groups for spouses of Iraq and Afghanistan Veterans that are based on this model and study. Education, skills building and support components target problem solving and communication, relationships, mental health and psychological conditions, and building the spouse's resilience and strengths. For the Spouse Telephone Support (STS) program, staff from each VA Medical Center are being trained and certified in delivering the support group intervention, which will take place over six months rather than one year, per spouse requests. Training, group leader materials, Spouse Workbooks, and coaching are provided by the Memphis VA Medical Center.

As the STS program is being rolled out to VA Medical Centers across the country, it is being evaluated to determine if the outcomes remain positive. While the material and structure remains the same for each group, the program is designed to be flexible to meet the needs of the spouses who are at each facility. Some medical centers will be implementing the program with spouses who may know each other and some will be providing face to face groups, rather than telephone groups. Its goal remains the same – to provide a forum for spouses' concerns and to help spouses better manage their concerns and the challenges of reintegration. As one spouse reported when asked what she liked the most about the program, *"Being able to share your problems with others who knew what you were going through."*

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Table 1. Baseline Characteristics of Spouses (N = 86)

Variable	M ± SD or %
Demographic	
Age, years	37.4 ± 9.0
Years Married	10.4 ± 8.2
Children, number	1.5 ± 1.2
Race	
White	84.9
Black	10.5
Native American	2.3
Asian/Pacific Islander	2.3
Ethnicity, Latino	10.5
Education	14.3 ± 2.4
Employed	57.0
Household Income, monthly	4881 ± 2703
Training	
Pre-deployment BATTLEMIND	12.8
Post-deployment BATTLEMIND	17.4
Clinical	
General health (0-4)	1.9 ± 1.0
Worse health compared to others	32.6
Worse health since return	45.3
Depression (0-27)	8.9 ± 5.9
Anxiety (0-21)	8.9 ± 5.7
Quality Marriage Index (6-45)	32.7 ± 8.0
Social support (0-68)	44.0 ± 8.6
Coping (29-145)	104.3 ± 13.8
Family communication (0-30)	19.9 ± 6.2

Note: Depression = PHQ-9, Anxiety = GAD, Coping = F-COPES, Family communication = FPSC

Table 2. Baseline Characteristics of Service Members (N = 86)

<b>Variable</b>	<b>M ± SD or %</b>
Demographic	
Employed	65.1
Branch of service	
Army National Guard	40.7
Army	37.2
Marines	8.1
Navy	5.8
Army Reserve	4.7
Air Force	1.2
Air Force Reserve	1.2
Air National Guard	1.2
Class	
Non-commissioned officer	61.6
Commissioned officer	15.1
Senior NCO	11.6
Junior enlisted	5.8
Warrant officer	3.5
Status	
Retired	31.4
Serving in guard or reserve	26.7
Serving in regular military	25.6
Discharged	10.5
Other	5.8
Receive VA services	59.3
Deployment	
Deployments, number	2.6 ± 2.8
Months since return	28.6 ± 21.6
Months of last deployment	11.6 ± 5.4
Injured	64.0
Post-deployment BATTLEMIND	27.9



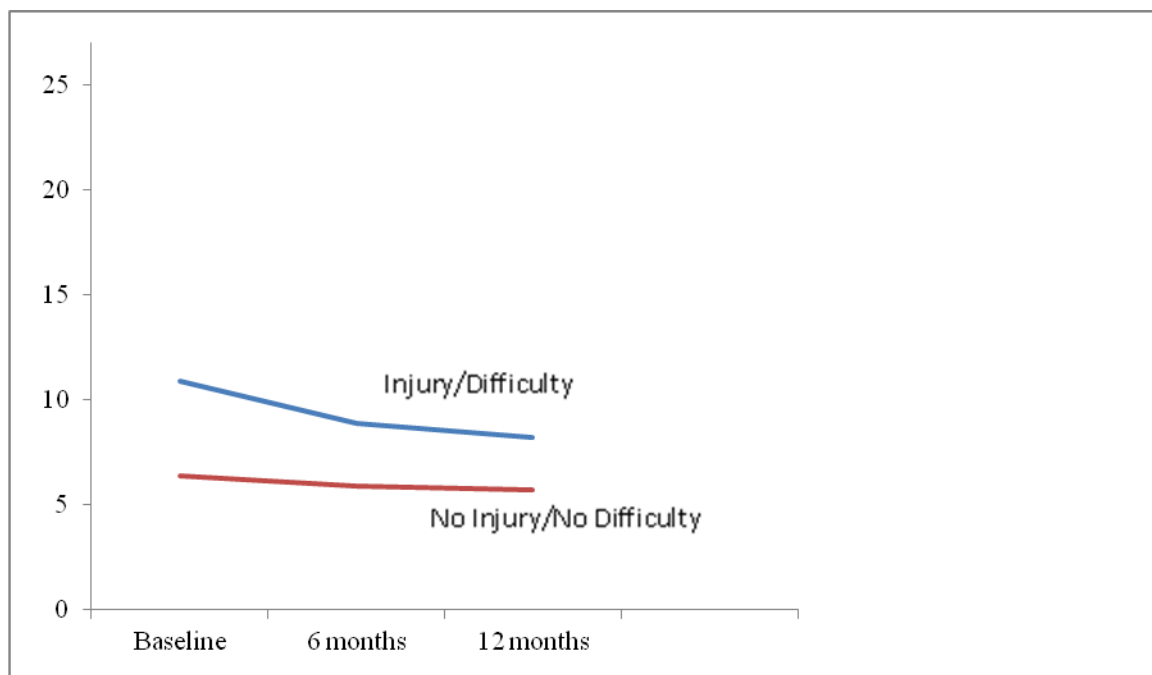
Table 3. Outcomes over Time for Study Participants (N=86)

Variable	Baseline M $\pm$ SD	6 Months M $\pm$ SD	12 Months M $\pm$ SD	Time <i>p</i> -value	d
Depression (0-27)	8.9 $\pm$ 5.9	7.4 $\pm$ 5.6	6.9 $\pm$ 5.7	.003	.33
Anxiety (0-21)	8.9 $\pm$ 5.7	6.7 $\pm$ 5.1	6.7 $\pm$ 5.6	<.001	.40
Quality marriage (6-45)	32.7 $\pm$ 8.0	31.6 $\pm$ 9.9	31.9 $\pm$ 9.8	.26	.10
Social support (0-68)	44.0 $\pm$ 8.6	46.0 $\pm$ 10.2	45.5 $\pm$ 10.1	.04	.17
Coping (29-145)	104.3 $\pm$ 13.8	104.7 $\pm$ 13.7	105.7 $\pm$ 14.5	.20	.10
Family communication (0-30)	19.9 $\pm$ 6.2	20.9 $\pm$ 6.4	20.9 $\pm$ 6.2	.10	.16

Table 4. Outcomes for Injury/Difficulty (n=48) and No Injury/No Difficulty Participants (n=38)

Variable	Baseline M $\pm$ SD	6 Months M $\pm$ SD	12 Months M $\pm$ SD	Group <i>p</i> -value	Time <i>p</i> -value	Group*Time <i>p</i> -value	d
Depression (0-27)				.003	.005	.14	
Injury/Difficulty	10.9 $\pm$ 5.8	8.7 $\pm$ 5.8	8.1 $\pm$ 5.7				.48
No Injury/No Difficulty	6.4 $\pm$ 5.1	5.6 $\pm$ 4.8	5.6 $\pm$ 5.4				.16
Anxiety (0-21)				.001	<.001	.009	
Injury/Difficulty	11.3 $\pm$ 5.5	7.9 $\pm$ 5.3	8.1 $\pm$ 5.9				.57
No Injury/No Difficulty	6.0 $\pm$ 4.5	5.3 $\pm$ 4.7	4.9 $\pm$ 4.7				.24
Quality marriage (6-45)				.08	.28	.55	
Injury/Difficulty	31.5 $\pm$ 7.9	30.5 $\pm$ 9.8	29.7 $\pm$ 9.6				.23
No Injury/No Difficulty	34.2 $\pm$ 8.1	32.9 $\pm$ 10.0	34.4 $\pm$ 9.6				.03
Social support (0-68)				.03	.04	.91	
Injury/Difficulty	42.0 $\pm$ 8.7	44.3 $\pm$ 11.0	43.6 $\pm$ 10.7				.18
No Injury/No Difficulty	46.5 $\pm$ 7.9	48.3 $\pm$ 8.7	47.8 $\pm$ 8.9				.16
Coping (29-145)				.51	.18	.26	
Injury/Difficulty	103.3 $\pm$ 15.9	105.2 $\pm$ 13.9	103.8 $\pm$ 15.1				.03
No Injury/No Difficulty	105.5 $\pm$ 10.9	104.1 $\pm$ 13.7	108.0 $\pm$ 13.7				.23
Family communication (0-30)				.28	.11	.89	
Injury/Difficulty	19.1 $\pm$ 6.5	20.3 $\pm$ 6.5	20.0 $\pm$ 5.8				.13
No Injury/No Difficulty	20.8 $\pm$ 5.7	21.6 $\pm$ 6.4	22.0 $\pm$ 6.5				.21

Figure 1. Change over Time for Spouses in Depression



### **Spouse BATTLEMIND Telephone Support Groups**

Linda Nichols, Ph.D., Jennifer Martindale-Adams, Ed.D., Patricia Miller, M.A., Meghan McDevitt-Murphy, Ph.D., Karin Thompson, Ph.D., Marshall Graney, PhD, Robert Burns, MD, Lyndon Riviere, Ph.D., and Kathleen M. Wright, Ph.D.

**Background and Objectives.** This study will expand the Department of Defense (DoD) one time, face-to-face post deployment BATTLEMIND training for spouses of Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) Guard/Reserve service members into year-long, telephone groups focusing on education, skills building and support. The goal is to build spouses' resilience to cope with reintegration, help them serve as a support system for returning service members, and ease the transition for families post-deployment.

Although reintegration difficulties increase during the first year for returning personnel, face-to-face Spouse BATTLEMIND has been offered as a one-time, brief training session, which does not provide ongoing interaction as new reintegration challenges surface, and is not routinely available to all spouses post deployment. Telephone Spouse BATTLEMIND will emphasize adaptive change and capacity for continued change and will determine whether telephone groups enhance quality of life for military family members.

The long-term objective of this clinical trial is to develop the protocol and materials for Spouse Telephone BATTLEMIND groups that can be disseminated across DoD and Department of Veterans Affairs. Study aims include: 1) develop the components into a manual for later clinical translation; 2) determine the characteristics of those who are recruited and retained; 3) determine satisfaction; 4) determine adherence to recommendations; 5) determine feasibility and cost of telephone groups; and 6) determine changes in spouse self-report of depression, anxiety, and relationship satisfaction, and family problem-solving, coping strategies, and communication.

**Methodology.** The study will enroll 60 OEF/OIF Guard/Reserve spouses. Over the period of one year, 12 hour-long structured telephone groups (each with a trained Group Leader and 6 participants) will focus on education, training in and practice of coping skills and cognitive restructuring (identifying and re-shaping negative and destructive thoughts), and support. The content, modeled on Soldier BATTLEMIND, targets readjustment concepts based on the letters of BATTLEMIND. Training includes changes during deployment; negotiation skills; strategies to reduce or eliminate reintegration difficulties; strategies to support the returning service member; and cues on when to seek mental health services for any family member.

Telephone data collection will be conducted at baseline, six and twelve months. Primary outcome variables include spouse depression, anxiety, and relationship satisfaction, and family problem-solving, coping strategies, and communication. Further data will be collected on the cost of conducting the proposed intervention. Participant satisfaction will be measured with a program evaluation. Recruitment will begin in April, 2009.

**Impact.** This proactive approach to service delivery to the military family is designed to help spouses support and facilitate the reintegration of the returning service member into the family. It would eliminate barriers to receiving care: lack of local services, access, privacy concerns, and travel. The consequences of deployment and combat exposure can affect marriage and families negatively. The study will offer spouses support throughout the first year post-deployment, when returning service members' mental health symptoms typically increase and are likely to affect spouse and family relationships.

Military Health Research Forum (MHRF), Kansas City, Missouri (Hallmark Crown Center), August 31-September 3, 2009.

## Spouse BATTLEMIND Telephone Support Groups

- Linda Olivia Nichols, PhD
- Jennifer Martindale-Adams, EdD
- Patricia Miller, MA
- Meghan McDevitt-Murphy, PhD
- Karin Thompson, PhD
- Marshall Graney, PhD
- Robert Burns, MD
- Lyndon Riviere, PhD
- Kathleen M. Wright, PhD

VA Medical Center at Memphis, University of Tennessee Health Science Center; University of Memphis; Walter Reed Army Institute of Research

## Purpose

- Spouses/significant others of returning OEF/OIF Guard/Reserve service members (n=60)
- Help spouses serve as a support system for returning service members during reintegration
- Build spouses' resilience
- Ease the transition for families post-deployment
- Overcome barriers to care

## Intervention

- Structured and targeted – problem based
- Twelve hour-long telephone support sessions over one year
- Group of 5-6 spouses and Group Leader
- Spouse Workbook
- Intervention addresses:
  - Education (e.g., deployment and combat effects, changes)
  - Skills building (e.g., negotiation, role realignment, managing negative thoughts, communication)
  - Support

## Sessions

- Introduction
- Bonds (Social Support)
- Adding and Subtracting Family Roles
- Taking Control
- Talking It Out
- Loyalty and Commitment
- Emotional Balance
- Mental Health and Readiness
- Independence
- Navigating the Military/VA/Community System
- Denial of Self (Self-Sacrifice)
- Closing: Moving Forward

"Red Flag" behaviors and resources discussed at each session

## Session Structure

- Welcome and introduction (5 minutes)
- Check in (15 minutes)
- Quotation (2 minutes)
- Didactic presentation (10 minutes)
- Discussion of ways to implement strategies, role play/practice, and commitments to try strategies (25 minutes)
- Closure (5 minutes)

## Outcomes

- Telephone data collection at baseline, 6 and 12 months
- Primary outcomes
  - Spouse depression (Patient Health Questionnaire, PHQ-9)
  - Spouse anxiety (Generalized Anxiety Disorder, GAD-7)
  - Spouse relationship satisfaction (Quality Marriage Index , QMI)
  - Family coping and problem solving (Family Crisis Oriented Personal Evaluation Scales, F-COPES)
  - Family communication (Family Problem Solving Communication , FPSC)
- Feasibility outcomes
  - Recruitment and retention
  - Satisfaction
  - Adherence and commitments
  - Cost

## Future

- Test in randomized clinical trial
- Telephone groups during deployment to be aware of potential concerns
- Develop materials for post deployment telephone groups for by DoD and VA
- Webinars + telephone drop in sessions

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## Reintegration: The Role of Spouse Telephone BATTLEMIND Pilot Project

Linda Nichols, PhD; Jennifer Martindale-Adams, EdD; Patricia Miller, MA; Meghan McDevitt-Murphy, PhD; Karin Thompson, PhD; Marshall Graney, PhD; Robert Burns, MD; Lyndon Riviere, PhD; and Kathleen M. Wright, PhD



### METHODS

#### Background

- ◆ Deployment and combat exposure consequences can affect marriage and families negatively
- ◆ During first year post-deployment, reintegration challenges typically surface and are likely to affect family relationships returning service members' mental health symptoms typically increase

#### Goal

- ◆ Implement telephone groups for spouses of Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) Guard/Reserve service members

#### Focus

- ◆ Ways the returning service member, spouse and family may have changed during deployment
- ◆ Emphasis on negotiation in personal relationships
- ◆ Strategies to reduce or eliminate reintegration difficulties
- ◆ Strategies to support the returning service member and the family.

#### Impact

- ◆ Proactive approach to service delivery to the military family
- ◆ facilitate the reintegration of the returning service member into the family
- ◆ Ease the transition for families post-deployment
- ◆ Enhance quality of life for military family members
- ◆ Strengthen the family's ability to cope with reintegration concerns
- ◆ Build spouses' resilience to cope with reintegration challenges
- ◆ Help spouses serve as a support system for returning service members
- ◆ Eliminate barriers to receiving care:
  - lack of local services, access difficulties, childcare, long distances to travel, privacy concerns

#### Objectives

- 1) Determine feasibility
- 2) Assess satisfaction
- 3) Assess changes in spouse well-being
- 4) Assess changes in family strength

#### Aims

- 1) Develop a manual for clinical translation
- 2) Determine characteristics of those recruited and retained
- 3) Determine participant satisfaction
- 4) Determine participant adherence and commitment
- 5) Determine feasibility and cost of telephone groups
- 6) Determine changes in participant outcomes

#### Sample

60 OEF/OIF Guard/Reserve spouses

#### Inclusion Criteria

- 1) Be married to an OEF/OIF service member who is at least 1 month post-deployment
- 2) If not married, must have lived as married for at least one year
- 3) Live with the service member when not deployed
- 4) Have been a spouse throughout deployment
- 5) Have a telephone

#### Exclusion Criteria

- 1) Auditory impairment that would make telephone use difficult
- 2) Service member does not give assent

#### Study Design

- ◆ Based on post deployment Soldier BATTLEMIND
- ◆ Based on one-time face-to-face Spouse BATTLEMIND (1.5 hours)
- ◆ Structured and targeted – problem based

#### Intervention

- ◆ Twelve monthly telephone support sessions over one year
- ◆ Each group of 5-6 spouses and Group Leader
- ◆ Spouse Workbook with materials for each topic and red flag behaviors
- ◆ Intervention addresses:
  - Skills building (e.g., negotiation, role realignment, managing negative thoughts, communication)
  - Education (e.g., deployment and combat effects, changes)
  - Support

#### Data Collection

- ◆ Mixed methods (quantitative and qualitative data and analysis)
- ◆ Telephone data collection at baseline, 6 months, and 12 months

#### Outcomes

##### Primary outcomes

Spouse depressive symptoms  
Spouse anxiety  
Spouse relationship satisfaction  
Family problem solving  
Family coping strategies  
Family communication

##### Feasibility outcomes

Recruitment and retention  
Satisfaction  
Adherence  
Cost

# Appendix

## Soldier BATTLEMIND Post-Deployment Topics

Buddies (cohesion) vs. Withdrawal  
 Accountability vs. Control  
 Targeted vs. Inappropriate aggression  
 Tactical awareness vs. Hypervigilance  
 Lethally armed vs. "Locked and loaded" at home  
 Emotional Control vs. Anger and Detachment  
 Mission Operational Security vs. Secretiveness  
 Individual Responsibility vs. Guilt  
 Non-defensive (combat) vs. Defensive driving  
 Discipline (ordering) vs. Conflict

## Spouse BATTLEMIND Post-Deployment Topics

Bonds (Social Support)  
 Adding and Subtracting Family Roles  
 Taking Control  
 Talking It Out  
 Loyalty and Commitment  
 Emotional Balance  
 Mental Health and Readiness  
 Independence  
 Navigating the Military/VA/Community System  
 Denial of Self (Self-Sacrifice)

## Session and Topic

### Introductory Session

1 Introduction

### BATTLEMIND Sessions

2 Bonds (Social Support)

3 Adding and Subtracting Family Roles

4 Taking Control

5 Talking It Out

6 Loyalty and Commitment

7 Emotional Balance

8 Mental Health and Readiness

9 Independence and Interdependence

10 Navigating the Military/VA/Community System

11 Denial of Self (Self-Sacrifice)

### Termination Session

12 Moving Forward

## Content

Introductions and format; Expectations; Transition from combat; Normalize transition difficulties; adaptation; Intervention and Workbook; Problem solving model; Techniques to be used each session; Cognitive restructuring techniques

Coping skills; Social reintegration; Spouse/service member support during and post-deployment; Strategies to increase positive family/couple time; Open communication; Community reentry for service member; Spouse support of service member

Negotiating family roles ; Communication; Loss of service member roles and addition of spouse roles; Expectations post-deployment; Shared roles; Strengths of couple and family; Effective negotiation; Reset roles/expectations of family post-deployment

Negotiation skills; Stress reduction skills; Escalating body signals ; Time out; Anger management; Relaxation strategies to manage stress; Awareness of stress levels in spouse or family members

Communication skills; Expectations of others and self; Clear, open, and consistent communication and boundaries; Active listening skills; Healthy conflict resolution strategies to fortify mutual goals.

Commitment to relationship; Strengthening support to each other; Understanding dynamics of couples in relationships; Importance of commitment and encouragement; Optimum functioning as individuals, as couple, and as family

Communication skills and strategies; Coping with emotions and intimacy; Fidelity and trust; Emotional grounding for control and compassion for self and spouse; Timing in return to intimacy; Unrealistic expectations; Expressing emotional needs

Recognition of need for mental health assistance; Local and national resources; Reinforcing resiliency; Recreating good coping skills; PTSD and TBI behavior changes and expectations

Changes in spouse and service member's independence; Restoring interdependence; Support of individuals' and couple's independence; Healthy and unhealthy beliefs about relationships; Healthy communication techniques; Effective methods to negotiate and make decisions

Resources for all family members; Strategies to ensure timely assistance; Community support for military families; Proactive strategies to ask for help from family, friends and community

Express appreciation for spouse and service member sacrifices; Honoring commitments to each other and to the country; Planning for your future.

Discuss gains, next steps; Areas needing continued attention; Cues for family members needing help; Recap of intervention with emphasis on resiliency for continued strengthening; Identify and proactively approach and solve situations that are normal part of reintegration

## Session Activities

### ❖ Welcome and Introduction (5 minutes)

Welcome members  
 Group Rules  
 Signal Breath

### ❖ Check In (15 minutes)

Updates, concerns or changes  
 Last session commitments  
 Problem-solve difficulties

### ❖ Quotation (2 minutes)

Quotation related to topic  
 Reflection

### ❖ Didactic Presentation (15 minutes)

Brief overview  
 Group member comment on relevance  
 Presentation of topic  
 Discussion  
 Highlight "red flags" and resources to address

### ❖ Practice and Ways to Implement Strategies (20 minutes)

Discussion  
 Strategies and activities to try  
 Practice use of strategies and activities  
 Commitments

### ❖ Closure (5 minutes)

Summarize  
 Next session date and topic  
 Ask spouse to review Workbook  
 Encourage use of Signal Breath and strategies identified  
 Provide support and encouragement

Note: "Red Flag" behaviors and resources to address discussed at each session

This research is supported through the Department of Defense Congressionally Directed Medical Research Program and the Department of the Army Medical Research Acquisition Activity. It is also supported in part by the Office of Research and Development, Department of Veterans Affairs, and the Memphis VA Medical Center.






## Reintegration: Support for Spouses Post Deployment

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Presented at International Research Symposium on Military Families  
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Congressionally Directed Medical Research Program (CDMRP)  
Reintegration: The Role of Spouse Telephone BATTLEMIND  
W81XWH-08-2-0195  
September 2008 – September 2011

## Reintegration Challenges

- Marital infidelity
- Marital intimacy
- Spousal abuse
- Depression
- Anxiety
- Emotional problems
- Alcohol problems
- Family problems
- Stress
- Reestablishing roles
- Communication
- Daily household routines
- Making household decisions
- Disciplining/handling children
- Meeting children's expectations

## Spouse Telephone Support

- Pilot study
- Spouses/significant others of returning OEF/OIF/OND service members (n=86)
- Help spouses serve as a support system for returning service members during reintegration
- Build spouses' resilience
- Ease the transition for families post-deployment



## Intervention

- Structured and targeted – problem based
- Twelve hour-long telephone support sessions over one year
- Group of 5-6 spouses and Group Leader
- Spouse Workbook
- Intervention addresses:
  - Education (e.g., deployment and combat effects, changes)
  - Skills building (e.g., negotiation, role alignment, negative thoughts, communication)
  - Support
- Telephone data collection at baseline, 6 and 12 months

## Sessions

- Introduction
- Bonds (Social Support)
- Adding and Subtracting
- Taking Control
- Talking It Out
- Loyalty and Commitment
- Emotional Balance
- Mental Health and Readiness
- Independence
- Navigating the Military/VA/Community Systems
- Denial of Self (Self-Sacrifice)
- Closing: Moving Forward

"Red Flag" behaviors and resources discussed at each session

## Spouses

- Mid-late 30s
- Married 10 years
- 1.5 children
- 85% Caucasian/White
- 11% African-American/Black
- 2% Native American
- 2% Asian/Pacific Islander
- 11% Hispanic/Latino
- 14 years education
- 57% employed
- \$4881 monthly household Income

## Spouse Outcomes

- Significant improvement over time in
  - Depression
  - Anxiety
  - Social support
- No significant improvement over time in
  - Quality Marriage
  - Coping
  - Communication

## Problem Solving/Communication

*"Feel more confident in options you have...more resilient...never give up...being able to solve any problems you're facing."*  
(Spouse)



*"The book was great but the telephone support helped put the concepts into every day practice. I was able to get feedback and suggestions from the group leader and the other participants and an objective perspective on issues too difficult for me to handle by myself."* (Spouse)

## Support

*"Having other spouses I could relate to. Some made me think 'I'm not the only one going through this.' It made me feel connected."*  
(Spouse)



*"Being able to share your problems with others who knew what you were going through. Hearing about other people's difficulties and problems."* (Spouse)

*"Talking it out. Realize we had a lot in common. Helping others through their difficulties."* (Spouse)

## Self-Care

*"I liked taking time for myself and being able to share my problems and accomplishments with women who understand."*  
(Spouse)



*"Being able to speak freely about things most civilians cannot relate to. Feeling validated."* (Spouse)

*"I liked the ability to hear others talk, to voice my opinion; to give each other support. I liked the book, the coach, the freedom of having a girls' night out too."*  
(Spouse)

## Question

- What about wives of husbands whose injuries or PTSD have caused difficulties and care challenges since return?
  - Would focusing on basic reintegration challenges help them?

### Spouse Comment

*"Best part? Having other caregivers whose spouses had similar injuries as my husband."*

### Spouse Comment

*"Having a spouse who was severely wounded 5 years ago, we've already had the issues of reintegration, family roles, communication, etc."*



**Supporting Data** Tables referenced in body of report.

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Army	37.2
Marines	8.1
Navy	5.8
Army Reserve	4.7
Air Force	1.2
Air Force Reserve	1.2
Air National Guard	1.2
Class	
Non-commissioned officer	61.6
Commissioned officer	15.1
Senior NCO	11.6
Junior enlisted	5.8
Warrant officer	3.5
Status	
Retired	31.4
Serving in guard or reserve	26.7
Serving in regular military	25.6
Discharged	10.5
Other	5.8
Receive VA services	59.3
Deployment	
Deployments, number	2.6 ± 2.8
Months since return	28.6 ± 21.6
Months of last deployment	11.6 ± 5.4
Injured	64.0

Table 3. Sessions, Topics and Content for Spouse Intervention Sessions

Session	Content
1 <b>Introduction</b> Note: "Red Flag" behaviors discussed at each session along with resources to address specific concerns	Introductions; Format of support group; Expectations; Transition from combat to home; Normalize transition difficulties, Discuss adaptation as goal; Overview of intervention and Participant Workbook; Problem solving model and techniques to be used during each session; Cognitive restructuring techniques to be used during each session.
<b>BATTLEMIND Sessions</b>	
2 <b>Bonds (Social Support)</b>	Coping skills aimed at social reintegration; Spouse (SP) and service member (SM) sources of support during deployment; Strategies to keep those sources while increasing positive family/ couple time; Open communication; Techniques for gradual community reentry for SM; Ways SP can support SM during readjustment to home.
3 <b>Adding and Subtracting Family Roles</b>	Skills for negotiating family roles and communication; Loss of roles by SM and taking on by SP during deployment; Expectations of roles by each post-deployment; Acknowledgment and encouragement of roles that SM and SP shared during deployment with focus on strengths of couple and family members; Effective negotiation methods to reset roles/expectations of family members during post deployment adjustment.
4 <b>Taking Control</b>	Negotiation skills and stress/anger management; Awareness of escalating body signals (breathing, heart rate, etc.); Time out; Anger management; Relaxation methods to manage stress through use of self awareness; Awareness of stress levels in SP or family members.
5 <b>Talking It Out</b>	Communication skills; How to deal with expectations of others and self; Clear, open, and consistent communication and boundaries; Active listening skills; Strategies for healthy conflict resolution to fortify mutual goals of SM and SP.
6 <b>Loyalty and Commitment</b>	SM and SP commitment to relationship; Recommitment to relationship to strengthen support for each other during times of stress; Understand dynamics of couples in relationships; Importance of commitment and encouragement for optimum functioning as individuals, couple and family.
7 <b>Emotional Balance</b>	Skills and strategies for communicating, expressing and coping with emotions and intimacy; Recognition of importance of fidelity and trust in relationships; Emotional grounding for control and compassion for SP and SM; Timing of return to intimacy and unrealistic expectations; Strategies for expressing emotional needs as a couple.
8 <b>Mental Health and Readiness</b>	Recognition of need for mental health assistance for SP, SM, or children; Where to find local and national resources; Reinforce resiliency through recognition of situations where SP and SM have demonstrated good coping skills in difficult situations; PTSD and TBI behavior changes and expectations; Identify situations where additional assistance may be needed to help with adjustment issues and concerns.

## Supporting Data

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|----------------------------|--|--|
| 9                          | <b>Independence</b>                                | Changes in SP and SM's independence and how to compromise; Restore interdependence; Recognition and support of both individuals and couples independence; Healthy and unhealthy beliefs about relationships; Identify healthy communication techniques in a relationship; Effective methods to negotiate decision making and compromise in a relationship.                       |
| 10                         | <b>Navigating the Military/VA/Community System</b> | Resources available to SMs and family members; Strategies to ensure assistance is received in a timely manner; Resource experiences that have been beneficial to the family; Community support available to military families; Proactive methods to seek assistance from family, friends and community through effective ways to ask for help; Rehearsal of how to ask for help. |
| 11                         | <b>Denial of Self (Self-Sacrifice)</b>             | Ways SPs and SMs can express appreciation for sacrifices; Honor commitments that SP and SM have made to each other and to the country; Plan for your future.   |
| <b>Termination Session</b> |  |  |
| 12                         | <b>Moving Forward</b>                              | Discuss gains, next steps, coping with problems; Identify areas needing continued attention/cues for family members needing help; Recap of intervention with emphasis on the resiliency model for continued strengthening of couple and family; Review of ways to identify and proactively approach and problem solve situations that are a normal part of reintegration.        |
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Table 4. Group Session Components

Component	Time	Description
Welcome	5	Introduction to session, signal breath relaxation exercise to segue and help focus on session
Check in and review of strategies from last call	15	Status since last call; review of strategies tried; minimizing barriers to implementing strategies
Didactic topic presentation	15	Information on the predetermined topic
Practice and discussion of ways to implement strategies from presentation	20	Discussion by participants about their experience with topic area and how they can implement; practice use of techniques; identification of barriers to implementing strategies
Closure	5	Overview; commitment; reminder of next date and topic, signal breath relaxation exercise

Table 5. Outcomes over Time for Study Participants (N=86)

Variable	Baseline	6 Months	12 Months	Time	d
	M $\pm$ SD	M $\pm$ SD	M $\pm$ SD	* <i>p</i> -value	
Depression (0-27)	8.9 $\pm$ 5.9	7.4 $\pm$ 5.6	6.9 $\pm$ 5.7	.003	.33
Anxiety (0-21)	8.9 $\pm$ 5.7	6.7 $\pm$ 5.1	6.7 $\pm$ 5.6	<.001	.40
Quality marriage (6-45)	32.7 $\pm$ 8.0	31.6 $\pm$ 9.9	31.9 $\pm$ 9.8	.26	.10
Social support (0-68)	44.0 $\pm$ 8.6	46.0 $\pm$ 10.2	45.5 $\pm$ 10.1	.04	.17
Coping (29-145)	104.3 $\pm$ 13.8	104.7 $\pm$ 13.7	105.7 $\pm$ 14.5	.20	.10
Family communication (0-30)	19.9 $\pm$ 6.2	20.9 $\pm$ 6.4	20.9 $\pm$ 6.2	.10	.16

\**p*-values were determined using a repeated measures mixed linear model

Table 6. Potential Reintegration Concern Summary Questions over Time (N=86)

Variable	Baseline	6 Months	12 Months	Time	d
	M ± SD	M ± SD	M ± SD	* <i>p</i> -value	
Social life concern (1-4)	1.95 ± 1.05	1.77 ± 0.90	1.65 ± 0.82	.02	.29
Home life concern (1-4)	2.21 ± 1.03	1.93 ± 0.98	1.81 ± 0.94	.001	.39
Couple concern (1-4)	2.09 ± 1.07	1.90 ± 1.00	1.87 ± 0.96	.10	.21
Family concern (1-4)	2.22 ± 0.94	2.18 ± 1.07	1.88 ± 1.02	.001	.36
Concern with service member (1-4)	2.73 ± 1.00	2.47 ± 1.03	2.29 ± 1.07	<.001	.44
Concern about self (1-4)	2.06 ± 0.94	1.86 ± 0.98	1.72 ± 0.86	.002	.36

\**p*-values were determined using a repeated measures mixed linear model

Table 7. Outcomes for Difficulty with Injury (n=48) and Non-difficulty Participants (n=38)

Variable	Baseline M $\pm$ SD	6 Months M $\pm$ SD	12 Months M $\pm$ SD	Group * <i>p</i> -value	Time * <i>p</i> -value	Group*Time * <i>p</i> -value
Depression (0-27)				.003	.005	.14
Difficulty	10.9 $\pm$ 5.8	8.7 $\pm$ 5.8	8.1 $\pm$ 5.7			
Non-difficulty	6.4 $\pm$ 5.1	5.6 $\pm$ 4.8	5.6 $\pm$ 5.4			
Anxiety (0-21)				.001	<.001	.009
Difficulty	11.3 $\pm$ 5.5	7.9 $\pm$ 5.3	8.1 $\pm$ 5.9			
Non-difficulty	6.0 $\pm$ 4.5	5.3 $\pm$ 4.7	4.9 $\pm$ 4.7			
Quality marriage (6-45)				.08	.28	.55
Difficulty	31.5 $\pm$ 7.9	30.5 $\pm$ 9.8	29.7 $\pm$ 9.6			
Non-difficulty	34.2 $\pm$ 8.1	32.9 $\pm$ 10.0	34.4 $\pm$ 9.6			
Social support (0-68)				.03	.04	.91
Difficulty	42.0 $\pm$ 8.7	44.3 $\pm$ 11.0	43.6 $\pm$ 10.7			
Non-difficulty	46.5 $\pm$ 7.9	48.3 $\pm$ 8.7	47.8 $\pm$ 8.9			
Coping (29-145)				.51	.18	.26
Difficulty	103.3 $\pm$ 15.9	105.2 $\pm$ 13.9	103.8 $\pm$ 15.1			
Non-difficulty	105.5 $\pm$ 10.9	104.1 $\pm$ 13.7	108.0 $\pm$ 13.7			
Family communication (0-30)				.28	.11	.89
Difficulty	19.1 $\pm$ 6.5	20.3 $\pm$ 6.5	20.0 $\pm$ 5.8			
Non-difficulty	20.8 $\pm$ 5.7	21.6 $\pm$ 6.4	22.0 $\pm$ 6.5			

\**p*-values were determined using a repeated measures mixed linear model